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ABSTRACT

This two-part report provides an analysis of the current funding formula for Illinois community colleges, financing recommendations, and an overview and analysis of national trends in state financing of public higher education. Part I begins with a discussion of community college funding in Illinois, followed by an overview of five external trends affecting the current funding formula. The next sections analyze the linkage between Illinois' community college funding formula and enrollment, and examine approaches that have been taken to "desensitize" funding levels from enrollment trends. Next, several funding problems are identified, relating to uneven fluctuations in enrollment, fluctuations between categories of enrollment, and general enrollment decline. The paper then looks at Illinois' approaches to mission recognition, fair share and equity, and program improvement and quality. Part I concludes with a series of recommendations for improving the Illinois funding formula, along with a discussion of implementation considerations. Part II begins with an overview of historical trends in state financing of higher education, focusing on funding goals, purposes, approaches, levels, and influences. Next, current and future trends are examined in the areas of enrollment, demographic mix, emerging occupations, economic factors, and the political environment. The next two sections examine alternative formula funding approaches (e.g., formula allocation for instruction costs, decoupling, buffering, and marginal cost techniques) and alternatives to formula budgeting (e.g., incrementalism, performance indicators, and program budgeting). Finally, a framework for analyzing state funding is presented. (LAL)

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STATE FINANCING OF HIGHER EDUCATION UNDER CHANGING CONDITIONS

THE ILLINOIS COMMUNITY COLLEGE SITUATION

A Preliminary Qualifying Examination
Center for the Study of Higher Education
The University of Michigan

by

Richard Fonte
August 12, 1985

JC 850 475

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STATE FINANCING OF HIGHER EDUCATION UNDER CHANGING CONDITIONS

THE ILLINOIS COMMUNITY COLLEGE SITUATION
PART I

ANALYSIS AND RECOMMENDATIONS

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ILLINOIS COMMUNITY COLLEGE FUNDING

Illinois community colleges are funded through a combination of local taxes, tuition, state and federal dollars. Of these sources, state dollars in FY 85 accounted for 30.3%. Community colleges are unique among Illinois higher education institutions, however, both in terms of revenue sources, and the allocation mechanism used to distribute state dollars to local community college districts.

First, unlike four year institutions, local tax dollars, levied and raised by the 38 separately elected community college district boards, cover nearly 36% of the program cost for a average credit hour grant, i.e., the largest single funding component. The Chicago City College system, which has local taxing power but has a board appointed by the mayor of Chicago, and the 100% state funded community college in East St. Louis are two partial exceptions. The chart following the next page details the general shares of community college funding.

A second unique feature of community college funding comes from the budgeting approach used. That is, the state appropriated general fund dollars come predominantly from a funding formula, while four year institutions are funded through a "marginal cost" incremental budgeting approach. The community college funding formula has five major components. The largest element, the Credit Hour grant, representing 77% of the formula dollars, can be considered a general, multi-purpose grant to the institutions. The other four components of the funding formula are special purpose categorical grants. These include monies to be used for 1) disadvantaged students, 2) economic development activities and 3) advanced technology curriculum areas. A fourth categorical grant, equalization funding (16% of funding) is provided to 17 college districts that qualify for the category (i.e. low tax support

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per FTE), but can be used by those institutions for general institutional purposes. The chart on the following page details the percentage breakdown of state funds into the funding formula components.

All component categories of the funding formula are linked predominantly to enrollment. Moreover, with the exception of equalization funding, the plan is based on enrollment volume of credit hours grouped into seven major program cost categories. The seven are: 1) baccalaureate/transfer courses, 2) business occupational, 3) technical, 4) health, 5) remedial/developmental, 6) adult basic, and 7) general studies (i.e. community services). Moreover, the volume of credit hours in business, technical and health areas affects the proportion of dollars a school receives for two categorical grants, Economic Development and Advanced Technology, while the credit hour volume in the remedial and adult basic areas affects the proportion of dollars a district receives in the Disadvantaged Student categorical grant. Equalization, on the other hand, is funded on a non-program specific FTE basis, undifferentiated by program cost.

For the largest funding component, Credit Hour Grants, the formula is "residual," that is, the state share is determined only after the average local contribution of taxes and tuition is subtracted from the credit hour cost or "unit cost" in each one of the seven program cost categories. The residual nature of the funding formula is demonstrated on the next page for one category (Baccalaureate), in which the state share (Credit Hour Grant) of $21.67 per credit hour for FY 85, was determined primarily by a series of deductions from the assumed program cost of $79.76.

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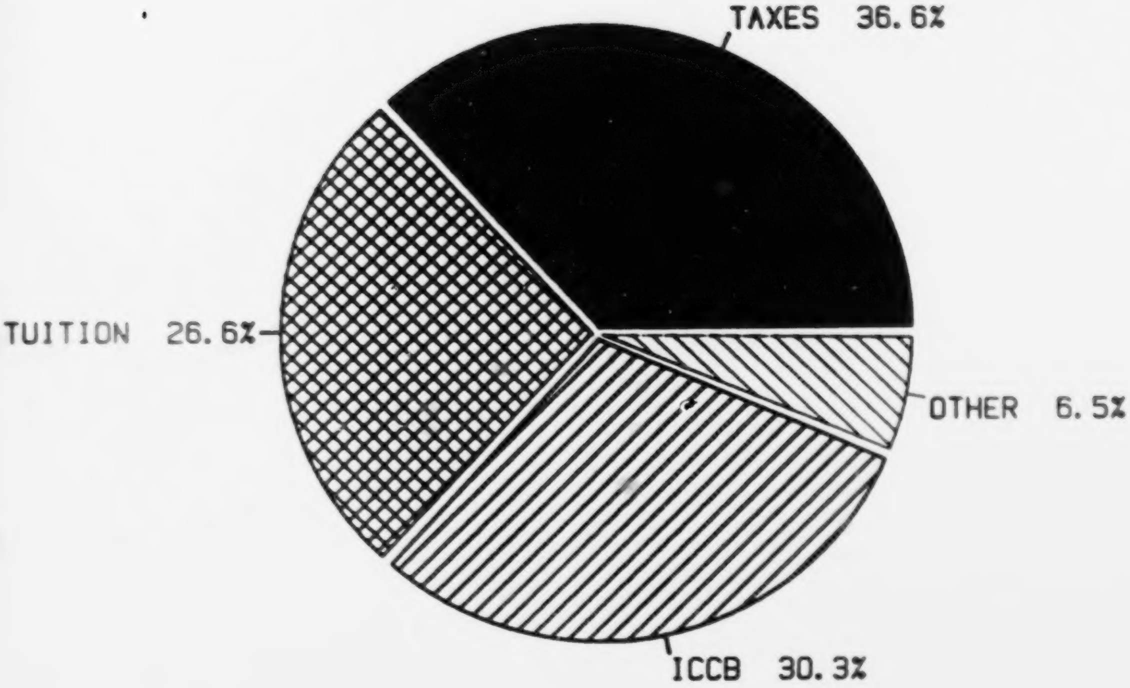
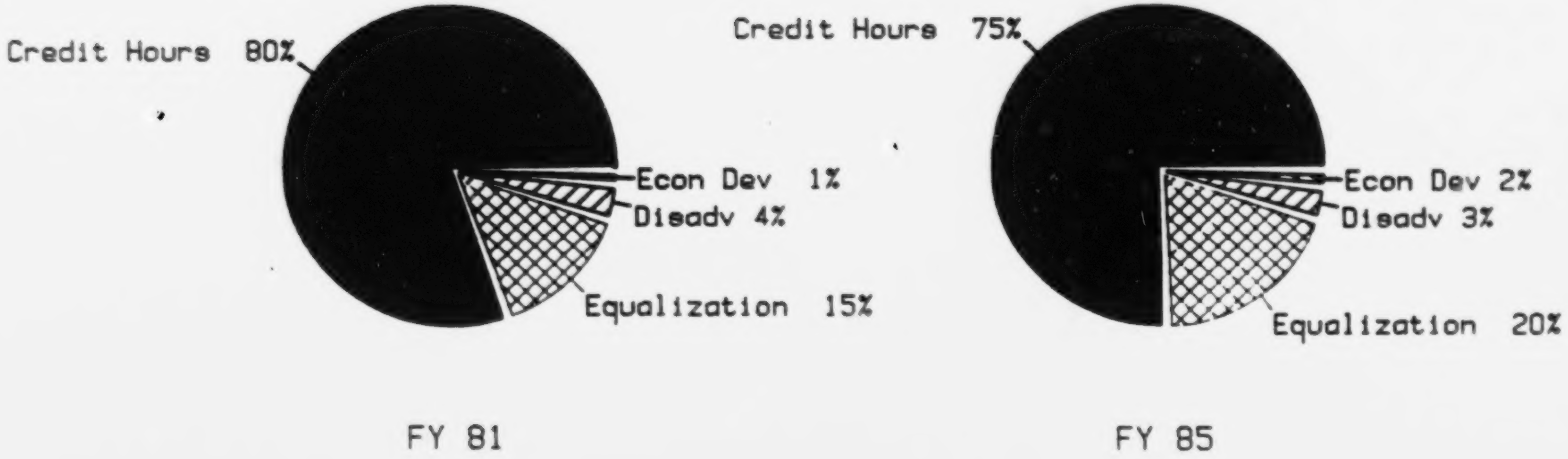
FISCAL YEAR 1985
FUNDING SOURCES



SHARE OF OPERATING REVENUES

PERCENTAGE BREAKDOWN OF STATE FUNDS FOR FISCAL YEAR 1981 AND 1985



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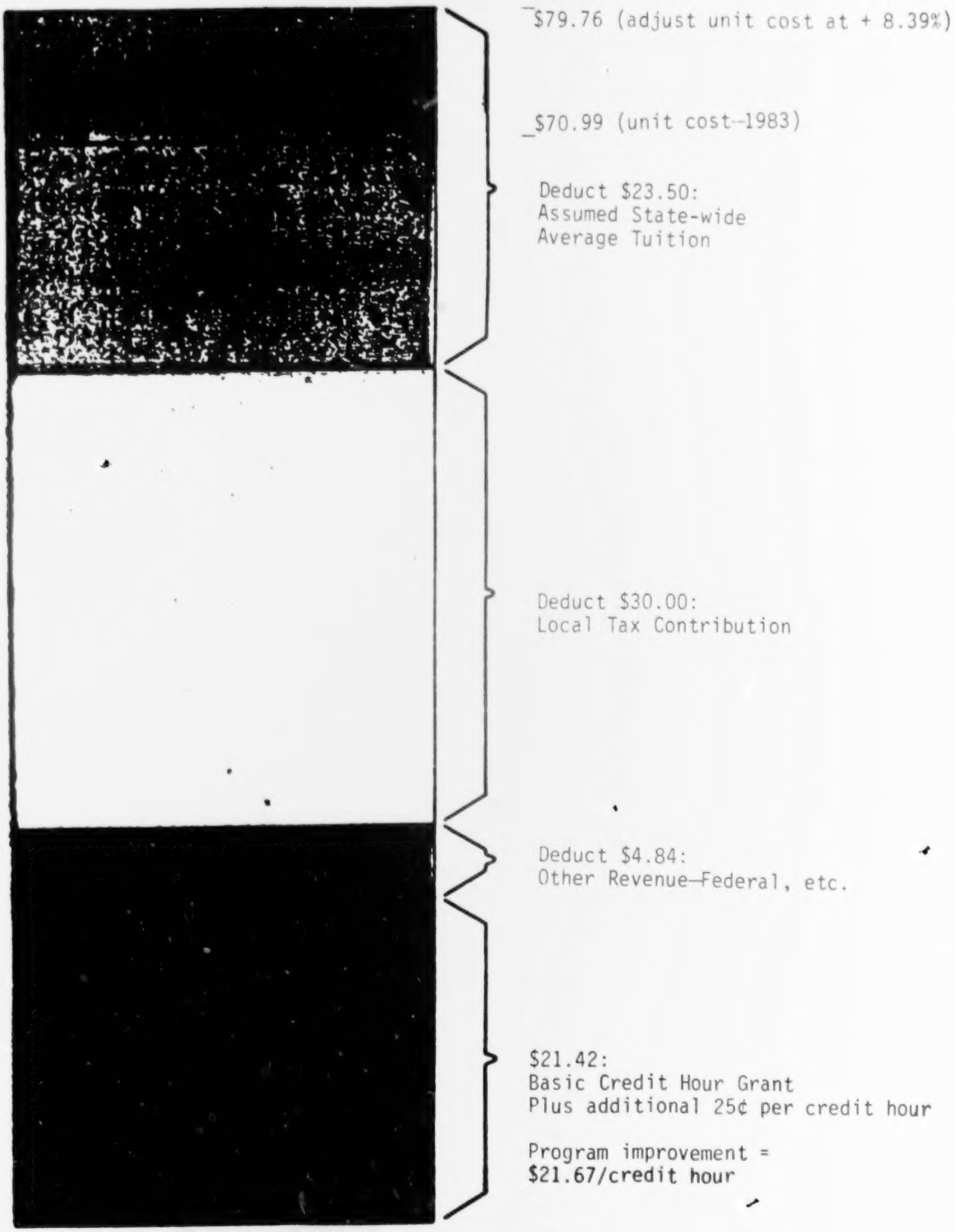
FY 1985
Credit Hour Funding
Baccalaureate Category



ENVIRONMENTAL TREND ANALYSIS

A focus on five external trends can assist an analysis of the context in which the current funding formula operates and the pressures for change on the current allocation approach. The five trends suggested for review are: 1) enrollment, 2) socio-demographic, 3) occupational, 4) economic, and 5) political/legal along with the organizational or governance structure within Illinois.

Enrollment Trends

Of the 714,888 students enrolled (i.e. headcount) in Illinois higher education in fall of 1984, 50% or 361,187 were enrolled in community colleges. This exceeds the national average of 38% (McCoy and Halstead, 1984, p. 200). In terms of FTE, community colleges represent (since 1980) the largest component of public higher education (176,466 FTE versus 159,779 for the four year publics) and 37.8% of all Illinois higher education FTE. (IBHE Data Book, 1985c, p.83)

A review of the last five years shows that enrollment trends at community colleges have generally paralleled the general direction of all Illinois higher education, but with more extreme fluctuations. Community colleges clearly demonstrate a counter-cyclical economic trend while the other sectors of higher education show a closer match to high school graduate enrollment trends. The high school graduate drop began in earnest in 1983 and the 18-24 year old population is expected to drop by over 20% (i.e. above the national average) by 1990 (Carnegie, 1980, p.67).

General enrollment trends, however, hide serious variations among institutions. For example, the overall average FTE gain was 21.9% from fall of 1979 to 1980, yet, some schools, showed virtually no gain. While community college FTE increased from 1980-81 by 8.0%, seven

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FTE Fluctuations/ Institution	percent change 84-79	percent change 84-83	percent change 83-82	percent change 83-82	percent change 81-80	percent change 80-79
Kaskaskia	17.1%	-12.1%	0.3%	8.4%	4.4%	17.3%
Dupage	25.7%	0.4%	-5.3%	5.9%	7.3%	16.4%
Black Hawk	26.9%	-5.7%	2.9%	-7.8%	4.6%	35.7%
Triton	16.8%	-8.4%	-0.7%	3.1%	11.4%	11.8%
Parkland	8.8%	-7.5%	0.3%	-1.2%	6.6%	11.4%
Sauk Valley	-9.8%	-13.5%	-6.3%	12.2%	-11.1%	11.4%
Danville	4.5%	-5.9%	10.8%	-6.6%	-2.1%	9.6%
Chicago	67.7%	14.3%	-15.2%	-3.3%	12.8%	58.6%
Elgin	11.0%	-10.3%	0.6%	0.9%	5.6%	15.5%
Thornton	16.9%	-7.3%	4.2%	10.8%	5.4%	3.6%
Rock Valley	3.8%	-15.0%	3.9%	-0.3%	7.8%	9.3%
Harper	6.8%	-11.3%	-0.4%	4.9%	7.4%	7.3%
Ill. Valley	3.9%	-7.5%	-7.3%	9.7%	-3.5%	14.4%
Ill. Central	14.5%	-8.9%	2.1%	1.5%	4.6%	16.0%
Prairie St.	-7.4%	-14.0%	0.7%	-0.9%	3.1%	4.6%
Waubonsee	0.6%	-9.7%	-9.0%	-4.6%	13.9%	12.6%
Lakeland	-15.1%	-14.0%	-11.3%	3.4%	-8.5%	17.6%
Carl Sand	15.0%	-5.7%	1.3%	2.8%	7.3%	9.1%
Highland	22.0%	-16.8%	3.1%	10.9%	19.6%	7.4%
Kankakee	8.0%	2.6%	-5.2%	-1.1%	5.3%	6.7%
Rend Lake	-9.8%	2.2%	-15.9%	1.8%	0.4%	2.7%
Belleville	24.8%	-2.3%	8.3%	-3.5%	7.7%	13.5%
Kishwaukee	14.0%	-0.7%	-6.6%	0.3%	8.0%	13.4%
Moraine	38.5%	-1.3%	4.6%	12.7%	9.3%	8.8%
Joliet	7.1%	-7.7%	-3.3%	2.5%	5.1%	11.4%
Lincoln Land	4.5%	-8.1%	0.2%	-1.6%	7.0%	8.0%
Morton	1.4%	-11.2%	-0.4%	5.1%	7.6%	1.4%
McHenry	1.4%	-14.2%	-4.1%	-0.6%	17.0%	6.1%
Ill. Eastern	-2.8%	4.8%	-17.2%	0.3%	3.3%	8.2%
Logan	16.3%	0.4%	-7.6%	7.9%	7.2%	8.3%
Shawnee	-8.5%	-3.9%	2.5%	-8.3%	-4.7%	6.3%
Lake County	3.9%	-7.5%	-5.4%	1.2%	5.1%	11.6%
Southeastern	16.1%	32.1%	-12.3%	1.3%	-12.6%	13.3%
Spoon River	8.4%	-10.3%	-9.2%	1.8%	0.1%	30.5%
Oakton	14.9%	-15.0%	2.2%	9.0%	19.4%	1.6%
Lewis/Clark	12.8%	-7.7%	9.5%	1.9%	1.2%	8.2%
Richland	35.6%	-7.1%	1.8%	-6.6%	20.4%	27.4%
John Wood	16.0%	-13.8%	0.4%	-0.5%	5.9%	27.3%
East ST. L	-22.7%	-24.3%	-3.3%	11.2%	-4.3%	-0.7%
total	23.8%	-1.5%	-5.3%	0.9%	8.0%	21.9%

Credit Hour Shifts
By Category

	FY82	FY83	82-83 % change	FY84	83-84 % change
Baccalaureate	2,596,751	2,684,849	3.39	2,822,028	5.11
Business	763,416	768,218	0.63	554,064	-27.88
Technical	885,841	968,296	9.31	850,594	-12.16
Health	327,339	352,606	7.72	286,351	-18.79
Remedial/ Developmental	149,457	161,577	8.11	221,064	36.82
ABE/ASE	1,288,765	1,186,629	-7.93	923,191	-22.20
General Studies	449,163	395,049	-12.05	307,391	-22.19
Overall	6,460,732	6,517,224	0.87	5,964,683	-8.48

colleges actually showed declines as high as -12.6%. Moreover, while the entire period from fall of 1979 to fall of 1984 shows a net gain in FTE of 24% for community colleges, all institutions did not share equally in these trends with seven recording declines for the five year period. See chart on the following page outlining fluctuations.

General enrollment trends also tend to obscure shifts of enrollment between broad program categories. While some of these shifts reflect shifting occupational trends over time, others reflect annual fluctuations which can be quite severe, and with serious formula impact. For example, while total credit hour enrollment showed virtually no change between FY 82 to 83 (+0.87%), the Technology area increased by 9.3%, and Health increased by 7.7%, while Adult Basic Education and General Studies decreased by -7.9% and -12.1%, respectively. Even more dramatic shifts occured between FY 83 and 84, which showed an overall decline of -8.5% in credit hour enrollment, but showed gains of 36.8% in the Remedial category. Trends by category are detailed on the next page.

Socio-demographic Trends

The majority of community college students are white (68.9%), female (57.8%), attend part-time (71.5%) and have a median age of 27.3. Comparing 1984 with 1981, certain trends appear. The median age has risen from 26.9 to 27.3. The female share has risen a small but statistically significant amount from 57.3% to 57.8%. Although the full-time to part-time ratio has remained approximately the same (comparing 1981 to 1984), during the high recession years (FY 82 and FY 83), the full-time attendance rose to 29.2% and 30.3% respectively. This temporary shift, once again, is an example of the counter-cyclical nature of community college enrollment (ICCB, 1985c, pp. 3,5).

Black enrollment has increased (from 16.1% to 17.5%) along with an increase in Hispanic enrollment (from 5.4% to 5.8%). Over 70% of the

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minority enrollment is located in the Chicago City College system, although there are 15 community college districts with minority populations of over 10% (ICCB, 1985c, p.6).

The Illinois Board of Higher Education (IBHE) identified as "one of the most compelling public issues facing Illinois, the need to foster greater educational achievement among minority groups." They found that despite representing 20.1% of the population and 29.1% of the public school enrollment, "enrollment statistics show smaller percentages of Blacks and Hispanics at each successive level of education. Not only does the drop-out rate reduce the pool of minoirites who go on to college, but the educational deficiencies "which undoubtedly contribute to academic difficulties and a low rate of retention for minorities" (IBHE, 1985b, pp. 23-24).

Occupational Trends

The FY 1986 budget request Technical Appendix (1985b, p. 23) of the Illinois Community College Board (ICCB) suggested that by the year 2000, the use of microcomputers would be incorporated into virtually all occupations. "This means that within five years, community colleges will need to 'computerize' all of their curricula, pre-baccalaureate and occupational alike." A review of the seven program areas funded by the ICCB showed the Technology category experiencing considerable growth (up 6.7% since 1981) while the Health category declined by 3.9%.

Economic Trends

The overall funding of higher education and community colleges has been significantly impacted by the economic environment of the state. While FY 1986 represents a large increase of 11.7% for Illinois higher education, previous recent year increases have been far less generous. At the height of the recession in FY 83, higher education actually experienced a decline in actual dollars (-2.0%) from the previous year.

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McCoy and Halstead, (1984, pp. 200-207) analyzed the period from FY 1978-1982 and found that in constant dollar terms, appropriations per student for all of Illinois public higher education declined by -8.9%. During the period of FY 1980 to FY 1986, higher education's share of the general revenue budget of the state declined from 12.9% to 12.2%.

In this overall less than generous environment, Illinois community colleges have faired even poorer than the rest of public higher education in what amounts to an inter-sector reallocation of state funds away from community colleges. During a period (FY 80-86) in which FTE net growth significantly outpaced the four year publics, the community college share of the higher education budget has declined from 12.5% to 11.6%. M. M. Chambers, (1984, pp. 1982-1988) found Illinois community colleges receiving less than the average national 2-year gain in appropriated funds community colleges (10% versus 13%) or less than the Illinois increase for all publics (which was 16%).

Political Trends

The FY 1986 Governor's budget marked a very sympathetic attitude toward funding elementary, secondary and higher education. The Governor and legislature focused attention on higher education and community colleges, were provided additional dollars to assist revitalization of the Illinois economy. The new spirit can best be manifested in several comments (IBHE, 1985a) from the Governor's letter to the Chairman of the Illinois Board of Higher Education:

> ...we have maintained fiscal integrity through recessionary times.. .It is now appropriate...to move forward together more aggressively in building a greater Illinois through investment in education...This budget embodies a recognition of the link between higher education and a stronger state economy.

State Institutional Relations

The state's governance system for higher education provides a contextual environment in which the community college funding formula operates. Community colleges are part of a "system of systems" of Illinois higher education "coordinated" (Berdahl, 1971), by the Illinois Community College Board (ICCB) which, in turn, is coordinated by the Illinois Board of Higher Education (IBHE). Formula allocation "decision rules" which are drafted and proposed by the ICCB are, therefore, subject to revision by the IBHE.

Based on a typology established by Curry (1982, the governance system of Illinois community colleges can best be described as fitting the "state-aided" model with the financial responsibility shared by the state and institution.

However, there is also some evidence of what Curry described as a "free market" system and Morgan (1984) described as "structured incentives" in the interface between the goverance structure and the funding formula. Under the existing "residual" formula, state reimbursement for each credit hour is based on the concept that the state credit hour grant rate should be determined by taking the average unit cost and subtracting average local revenue and other available revenue, rather than actual local revenue of that institution. Moreover, the state-wide assumptions of aggregate "local" revenue, i.e., local tuition and local taxes (the so-called, "standard local tax contribution"), are actually somewhat flexible elements of the residual deduction calculation. This allows the state, through the ICCB and IBHE, to act as a "third party" negotiator between state government and local community college districts and, in effect, to set a "price," the Credit Hour Grant rate, that the state is willing to reimburse for a particular cost category by making adjustments in these assumptions.

ANALYSIS OF FUNDING PRACTICES

A critical analysis of current and past funding practices of Illinois community colleges can be assisted by a review of four critical areas: 1) nature of the link between the formula and enrollment, 2) adequate recognition in funding of differences in mission, 3) the balance between the state's "fair share" and local college district's responsibilities, and 4) ability to provide for quality or program improvement in the funding formula. Given 1) the environmental constraints and 2) the existing legal relationship between the state and the community college districts, the key question is whether the current formula provides adequate solutions to the issues and the value choices in and between the issues raised in the four critical areas.

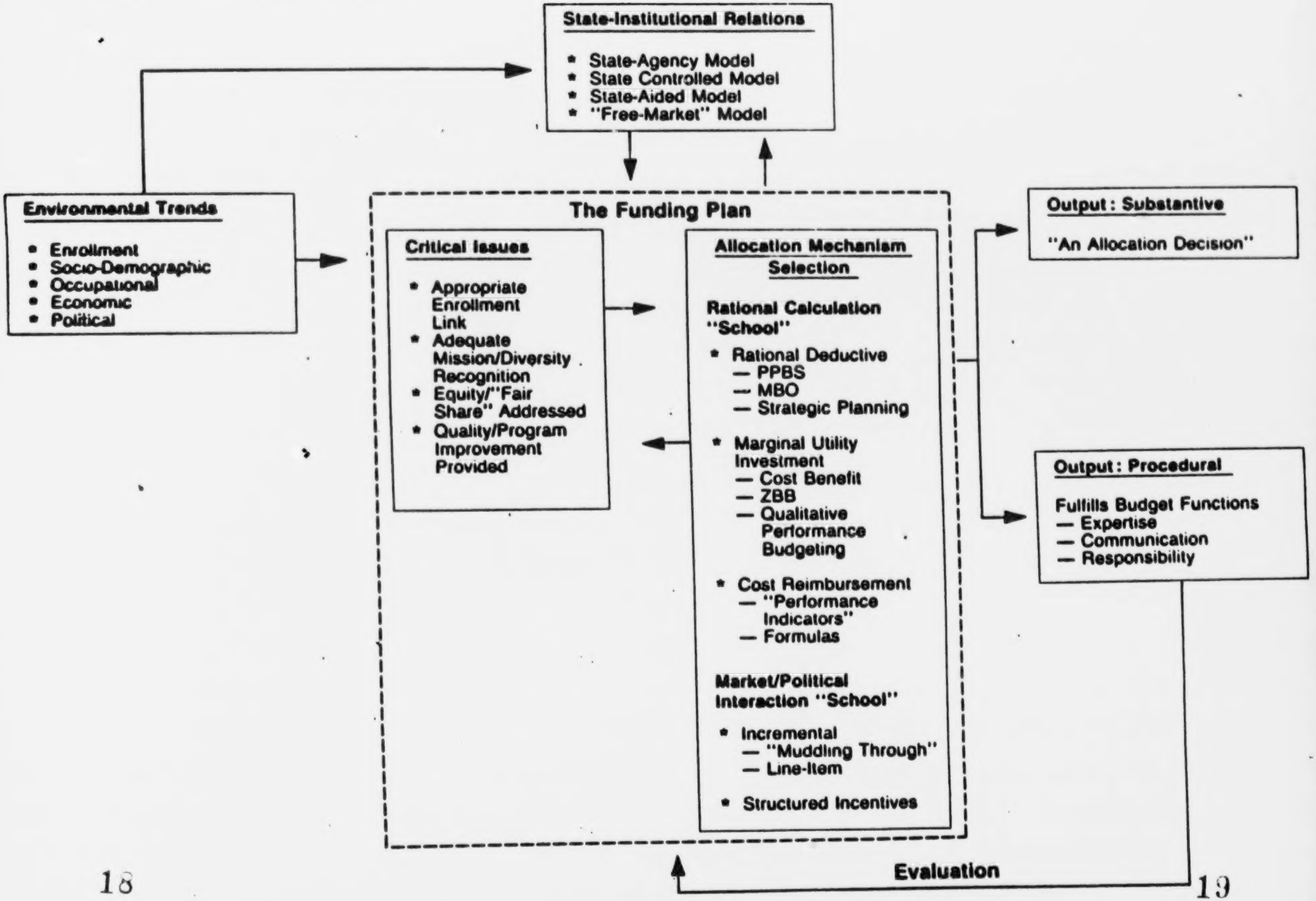
A framework to analyze funding plans which was used in this paper is outlined on the next page and a more detailed explanation is contained in Appendix A. The framework was developed based on analysis of national trends of formula funding used as a background paper for this study.

Under the current "decision rules" (Meisinger, 1976, p. 1) contained in the funding formula, are certain problem trends identifiable? What have been recent attempts to address some of these problems?

Funding Formula Linkage to Enrollment

While all components of the Illinois community college funding formula are linked to enrollment, the largest single element (77%), the Credit Hour Grant, has the strongest enrollment ties. Credit hour volume by category, by school, is multiplied by the credit hour rate per program category to determine the allocation for each school. The general multi-purpose, credit hour grant probably will and should reflect enrollment trends under a formula approach.. The issue is one of degree, and whether there are useful techniques which will allow institutions to better adjust 1) either to drops in enrollment or 2) to periodic fluctuations.

Framework to Analyze Funding Plans



State-Institutional Relations

- State-Agency Model
- State Controlled Model
- State-Aided Model
- "Free-Market" Model

Environmental Trends

- Enrollment
- Socio-Demographic
- Occupational
- Economic
- Political

The Funding Plan

Critical Issues

- Appropriate Enrollment Link
- Adequate Mission/Diversity Recognition
- Equity/"Fair Share" Addressed
- Quality/Program Improvement Provided

Allocation Mechanism Selection

Rational Calculation "School"

- Rational Deductive
  - — PPBS
  - — MBO
  - — Strategic Planning
- Marginal Utility Investment
  - — Cost Benefit
  - — ZBB
  - — Qualitative Performance Budgeting
- Cost Reimbursement
  - — "Performance Indicators"
  - — Formulas

Market/Political Interaction "School"

- Incremental
  - — "Muddling Through"
  - — Line-Item
- Structured Incentives

Output: Substantive

"An Allocation Decision"

Output: Procedural

Fulfills Budget Functions
— Expertise
— Communication
— Responsibility

Evaluation

Nationally, four general formula techniques have been used to "desensitize" funding from enrollment trends. These are 1) buffering, 2)decoupling, 3) marginal costing, 4) fixed cost factoring. Briefly, these have been defined in the following ways (Brinkman, 1984; Jones, 1984a):

> Buffering--The enrollment variable, i.e. credit hours, which constitutes the base for formula calculations, is modified in some way, such as 1) by use of an average of previous enrollment figures, or 2) using last "known" enrollment, rather than a projection, or 3) by creating enrollment bands, by "rounding" the base through the use of "corridors," which considers an enrollment figure plus or minus some percent eg. 2%) equal for purposes of the calculation.
>
> Decoupling--Funding would no longer be based on a single component of total institutional cost, such as Illinois' "unit cost", but would be broken into a number of separate cost components, utilizing for some, non-enrollment-related workload measures, such as square feet of physical facilities for the operations and maintenance cost component. Some parts of the funding formula, such as instruction would continue, enrollment based, but would be coupled together in multiple formulas with other factors, which have been "decoupled."
>
> Marginal Costs--Funding that recognizes that the cost of providing one less credit hour of instruction is greater than simply the average cost of any one credit hour or in the case of increase of a credit hour, the real cost is less than average.
>
> Fixed Costs--This approach suggests that certain costs vary by enrollment (or size of institution) but that other costs do not vary, but are "fixed," at least in the relatively short run. "Fixed cost" under this approach would be funded in a manner, unlinked to enrollment shifts.

Illinois Approaches to Enrollment Linkage

The current Illinois funding formula utilizes several of the "desensitizing" techniques, particularly buffering in a limited form and recently, fixed costing. Past formulas (pre-1981) in the era of enrollment growth, have utilized marginal costing to influence allocations to all college districts, but the new "fixed cost" funding techniques, (in many ways, a special type of marginal costing), has been developed to address the special problems of smaller community colleges "to develop and maintain a core institutional capacity" (Jones, 1984a, p.80). "Decoupling" has not been utilized in the Illinois formula for credit hour grants.

"Buffering" can be considered an element of the Illinois formula in a limited sense through the use of historical, rather than projected enrollments. Clearly, the full impact of enrollment declines is "buffered" from the institution, since the credit hour base used to generate the credit hour grants, is from a historical base two years prior to the fiscal year funding (i.e. 1984 credit hours are used to generate FY 1986 funding. Thus, while the college must bear the immediate brunt of tuition loss as enrollment drops, the state grants directly related to that particular enrollment change, lag behind or are "buffered," allowing some institutional adjustment. Adopted in conjunction with the funding ICCB recommendations of FY 1981, the use of "past actual" replaced the practice of projecting enrollments.

> The procedure (in the past had) demanded a very high degree of accuracy in projecting each college's enrollment, two years in advance so that these projections could be put into the appropriations request...this method of state funding also caused problems at the local community college level. For example, if a college projected higher enrollments for the budget year than they actually realized, they would get less state funding than they planned on in their budget. This made it very difficult for community colleges to prepare an accurate budget and to live within their budget.

Unresolved Issues

There are several reoccurring problems that can be identified in the Illinois funding formula to which some states have applied "buffering" solutions. These relate to 1) uneven fluctuations in enrollment, 2) fluctuations between categories of enrollment, and 3) less than even, general decline in enrollment that is expected until the 1990's.

The total Credit Hour Grants from the state have increased significantly for FY 1986 (+14.9%) while the two previous years had seen much more modest increases (+5.4% and +5.7%, respectively). In fact, the overall favorable FY 86 dollar increase tended to obscure certain inherent distribution problems that the formula contains. For example, a review of changes between three funding periods from FY 83-85, shows severe fluctuations were experienced by some schools. Particularly hard hit were schools that have a higher than average dependence upon state aid. That is, while state aid averaged 30.7% of a college's overall budget throughout the system, two schools received over 50% of budget from the state (Ilinois Eastern and Southeastern), while another four schools hard hit with fluctuations, depended upon state aid tc fund their budget above the average. The chart below details the fluctuations experienced by these six schools in three funding periods:

College District	State 1985 %Bud	St.Bud Fluct 84-85	84-85 St. % change	84-85 St. $ change	83-84 St. % change	83-84 St. $ change	82-83 St. % change	82-83 St. $ change
Ill. Eastern	60%	8.3%	4.9%	256416	-3.5%	-190364	-3.7%	-208153
Southeastern	53%	3.0%	16.2%	234274	-5.1%	-77162	-11.9%	-206287
Chicago	41%	-5.5%	4.6%	2356397	9.7%	4491216	-1.3%	-617603
Shawnee	40%	8.9%	8.9%	283740	-3.6%	-34254	0.5%	-4579
Rend Lake	37%	0.6%	0.6%	-41312	10.8%	154778	-19.0%	-337397
Thornton	36%	6.3%	6.3%	878064	2.0%	67393	-8.5%	-316596

These colleges were not alone in suffering from fluctuations, others such as Black Hawk college, Morton and Lincoln Land also had significant annual fluctuations. A total list is contained on the next page.

Category Fluctuation

Another significant fluctuation that the current formula does not address is enrollment fluctuations that exist between categories. These fluctuations can be most significant when the largest school in the system, Chicago City College system, experiences major increases or decreases in any category. There are three categories out of the seven, in particular, in which the Chicago credit hour concentration is exceptionally high: Remedial-43% of all credits, ABE/ASE -77% of all

	State 1985 %Bud	St.Bud fluct 84-85	84-85 St. % change	84-85 St. $ change	83-84 St. % change	83-84 St. $ change	82-83 St. % change	82-83 St. $ Change
Kaskaskia	35.8%	2.1%	10.4%	147843	15.0%	186712	6.7%	78202
Dupage	21.5%	0.0%	3.1%	218682	7.9%	520291	1.2%	74644
Black Hawk	27.8%	3.0%	16.8%	530295	-17.2%	-658119	0.4%	15866
Triton	26.5%	-0.3%	3.3%	262197	9.6%	691297	-7.6%	-592520
Parkland	18.4%	-3.5%	-4.2%	-134298	6.1%	186325	-2.9%	-91649
Sauk Valley	29.5%	0.7%	7.3%	99428	-3.3%	-46743	2.3%	32002
Danville	32.7%	2.7%	12.2%	195201	1.7%	26552	-0.1%	-1303
Chicago	40.9%	-5.5%	4.6%	2356397	9.7%	4491216	-1.3%	-617603
Elgin	23.4%	0.4%	4.1%	85539	0.8%	16919	3.5%	70765
Thornton	35.7%	6.3%	25.1%	878064	2.0%	67393	-8.5%	-316596
Rock Valley	25.3%	-1.6%	1.5%	41072	2.3%	60743	-1.3%	-35470
Harper	24.1%	-0.4%	5.3%	297413	6.4%	338978	-2.7%	-149136
Ill. Valley	31.3%	1.2%	7.3%	139435	-3.1%	-61690	1.0%	18578
Ill. Central	27.0%	3.8%	5.7%	256277	4.1%	176116	-1.7%	-75530
Prairie St.	24.3%	-3.3%	-2.3%	-54469	2.3%	51743	-13.3%	-351099
Waubonsee	26.2%	-1.6%	-1.5%	-29288	12.1%	208619	-0.4%	-7657
Lakeland	28.9%	-1.3%	-0.6%	-11228	-4.1%	-80708	1.3%	25730
Carl Sand	39.4%	11.6%	1.2%	15484	6.3%	75046	5.4%	61526
Highland	35.9%	1.7%	23.3%	293287	-0.5%	-5919	0.7%	8908
Kankakee	34.6%	3.1%	26.3%	394259	8.8%	120727	4.2%	55233
Rend Lake	37.0%	0.6%	-2.6%	-41312	10.8%	154778	-19.0%	-337397
Belleville	33.1%	-3.0%	4.3%	199908	6.0%	264023	-0.6%	-26722
Kishwaukee	36.8%	5.0%	15.7%	229070	3.1%	44590	14.5%	179857
Moraine	23.0%	0.8%	10.8%	440945	6.7%	257021	-5.8%	-234874
Joliet	25.3%	-1.1%	-0.6%	-27082	4.1%	163571	-2.7%	-111626
Lincoln Land	23.0%	-2.5%	-2.4%	-58993	10.6%	236729	-9.0%	-221604
Morton	22.1%	0.9%	7.4%	89485	5.5%	63352	-10.9%	-140139
McHenry	26.0%	-1.2%	1.4%	17044	14.8%	161554	-5.3%	-61396
Ill. Eastern	60.1%	8.3%	4.9%	256416	-3.5%	-190364	-3.7%	-208153
Logan	37.1%	3.1%	17.4%	292325	1.1%	18287	-1.7%	-28191
Shawnee	39.6%	8.9%	30.7%	283740	-3.6%	-34254	-0.5%	-4579
Lake County	22.6%	-1.6%	1.4%	52150	4.1%	144669	-2.5%	-88890
Southeastern	53.0%	3.0%	16.2%	234274	-5.1%	-77162	-11.9%	-206287
Spoon River	25.9%	-0.3%	-4.2%	-41157	12.8%	111404	2.1%	18152
Oakton	19.8%	0.6%	12.2%	414949	18.9%	540206	-6.8%	-209908
Lewis/Clark	25.7%	-3.1%	-3.2%	-63617	6.6%	124790	-2.0%	-38458
Richland	21.0%	-1.3%	-1.1%	-12000	14.5%	141420	16.5%	137920
John Wood	34.0%	4.1%	15.7%	230487	7.2%	98724	14.3%	171153
total	30.7%	-0.6%	5.7%	8478222	6.1%	8588836	-2.2%	-3208251

credits and General Studies -71% (ICCB, 1985a, p. 54). Major shifts in enrollment in any single year in these categories, leads to fluctuation in the statewide "average" and leads to major shifts in the credit hour rate for these categories. This situation occurred in FY 1985 when a Chicago decline of 9.9% in ABE/ASE in its base year, led to a credit hour rate increase of 52% while another drop of 26% in its base year lead to a 108% rate increase in FY 86. The Chicago dominance of certain categories can be seen also in the difference between the mean and median unit cost for each of the seven categories (See next page). While the mean and median remain fairly close for four out of seven categories, they show differences for the three high volume Chicago categories. Most impacted is the ABE category ,where the Chicago unit cost of $40.18 pulls the mean average down to $43.20, while the median is $60.45. The chart on the following page details the shifts in credit hours by category for the system as a whole and Chicago.

Fixed Cost Approaches

The FY 1985 "Operating Budget Issues" paper of September 16, 1983, initiated a full public discussion of the concept of "fixed cost" and the best approach to handle this problem in the funding formula. The problem as seen by ICCB staff (Wallhaus, 1984) focused on the problem of funding "fixed costs" such as general administration, and learning resources (i.e. library) at small schools. Analyzing eleven cost centers over an 11 year basis the staff reported that through a series of regression equations fixed cost expenditures for the smallest school could be identified as follows:

Academic administration and planning		$96,224
Learning Resources		$215,717
General Administration		$119,110
	Total	$431,051

1985

	Credit Hours			Funding Rates			Credit Hour Grants		
								Estimated	
State	FY 1982	FY 1983	% Change	FY 1984	FY 1985	% Change	FY 1984	FY 1985	% Change
Baccalaureate	2596751	2684849	3.39%	21.96	21.67	-1.32%	57024652	58180678	2.03%
Business	763416	768218	0.63%	11.21	11.80	5.26%	8557893	9064972	5.93%
Technical	885841	968296	9.31%	26.92	24.92	-7.43%	23846840	24129936	1.19%
Health	327339	352606	7.72%	51.92	50.75	-2.25%	16995441	17894755	5.29%
Remedial/Developmental	149457	161577	8.11%	17.24	15.63	-9.34%	2576639	2525449	-1.99%
ABE/ASE	1288765	1186629	-7.93%	4.00	6.08	52.00%	5155060	7214704	39.95%
General Studies	449163	395049	-12.05%	0.98	1.00	2.04%	440180	395049	-10.25%
Total	6460732	6517224	0.87%	17.74	18.32	3.27%	114596704	119405543	4.20%
Chicago									
Baccalaureate	443640	451240	1.71%	21.96	21.67	-1.32%	9742334	9778371	0.37%
Business	219175	214216	-2.26%	11.21	11.80	5.26%	2456952	2527749	2.88%
Technical	126498	159018	25.71%	26.92	24.92	-7.43%	3405326	3962729	16.37%
Health	68565	76125	11.03%	51.92	50.75	-2.25%	3559895	3863344	8.52%
Remedial/Developmental	34823	40968	17.65%	17.24	15.63	-9.34%	600349	640330	6.66%
ABE/ASE	1062220	957198	-9.89%	4.00	6.08	52.00%	4248880	5819764	36.97%
General Studies	320288	297087	-7.24%	0.98	1.00	2.04%	313882	297087	-5.35%
Total	2275209	2195852	-3.49%	17.74	18.32	3.27%	24327618	26889373	10.53%

Table 2

1986

FINAL IBHE FUNDING RATES FOR CREDIT HOUR GRANTS 03/04/85 GOVERNOR'S FINAL

	Credit Hours			Funding Rates			Credit Hour Grants			
								Estimated		Dollar
State	FY 1983	FY 1964	% Change	FY 1985	FY 1986	% Change	FY 1985	FY 1986	% Change	Change
Baccalaureate	2684849	2822028	5.11%	21.67	24.97	15.23%	58180678	70466039	21.12%	12285361
Business	768218	554064	-27.88%	11.80	16.21	37.37%	9064972	8981377	-0.92%	-83595
Technical	968296	850594	-12.16%	24.92	27.86	11.80%	24129936	23697549	-1.79%	-432387
Health	352606	286351	-18.79%	50.75	58.48	15.23%	17894755	16745806	-6.42%	-1148946
Remedial/Develop	161577	221064	36.82%	15.63	23.83	52.46%	2525449	5267955	108.59%	2742507
ABE/ASE	1186629	923191	-22.20%	6.08	12.66	108.22%	7214704	11687598	62.00%	4472894
General Studies	395049	307391	-22.19%	1.00	1.00	0.00%	395049	307391	-22.19%	-87658
Total	6517224	5964683	-8.48%	18.32	22.99	25.50%	119405543	137153716	14.86%	17748173
Chicago										
Baccalaureate	451240	486451	7.80%	21.67	24.97	15.23%	9778371	12146681	24.22%	2368311
Business	214216	102590	-52.11%	11.80	16.21	37.37%	2527749	1662984	-34.21%	-864765
Technical	159018	133500	-16.05%	24.92	27.86	11.80%	3962729	3719310	-6.14%	-243419
Health	76125	50070	-34.23%	50.75	58.48	15.23%	3863344	2928094	-24.21%	-935250
Remedial/Develop	40968	95185	132.34%	15.63	23.83	52.46%	640330	2268259	254.23%	1627929
ABE/ASE	957196	712569	-25.56%	6.08	12.66	108.22%	5819764	9021124	55.01%	3201360
General Studies	297087	219370	-26.16%	1.00	1.00	0.00%	297087	219370	-26.16%	-77717
Total	2195852	1799735	-18.04%	12.25	17.76	45.04%	26889373	31965821	18.88%	5076448

The state's responsibility was initially set at 1/3 of this amount based on an approximation of the state's share on average of a college budget. According to the original proposal:

> since fixed and variable costs are already a part of the unit cost which serve as the basis for credit hour grants, the fixed cost allocation would be made from credit hour grants (to each college), then the remaining credit hour grants would be allocated based on variable student credit hours.

Because of the reallocation impact to a significant number of districts, the ICCB (in its actual budget request) shifted to suggesting funding only for 1/6 of fixed costs. The IBHE rejected the concept of funding fixed costs out of credit hour grants and recommended a plan, which was funded by the legislature, which made small school "fixed cost" funding an equalization concept. Each district's EAV was adjusted to exclude the amount of the district's EAV necessary to pay for 1/3 of the fixed costs. This fixed cost adjustment to each district's EAV recognized that relatively small districts must allocate a larger portion of their local tax revenue to meet these costs. Local revenue is the focus, since only these revenues are "fixed" i.e., do not vary with enrollment changes.

In FY 1986 the ICCB budget request suggested funding small school "fixed cost" as a separate categorical program based upon the percent of local tax revenues that would be absorbed by each school's budget to fund 1/3 of fixed costs. Colleges with high percentages devoted to funding such fixed costs were to receive supplemental funding per credit hour. This approach was rejected by the IBHE, which continued to utilize the "decision rule" which includes small college "fixed costs" as an equalization factor.

ILLINOIS APPROACHES TO MISSION RECOGNITION

Beginning with implementation of the "Blue Ribbon" funding plan in FY 1977, a comprehensive approach to funding separate "missions" of the community colleges in Illinois was adopted by the use of 1) differential rates per program category and 2) supplemental special purpose categorical grants. Prior to this time, a single flat rate per credit hour was used (1965-73) with a single additional differentiation for "non-business occupational" credits used from 1973-77. The "Blue Ribbon" philosophy listed six basic missions for community colleges and stated that "provisions should be made for funding all missions" (IBHE, 1975, p. 39). However, they suggested that "some missions are better adapted to state funding," and others were "uniquely oriented to local communities and better adapted to local funding." In particular community education was listed as an appropriate community college mission which was expected to be funded out of local rather than state funds.

Mission Recognition and Categorical Grants

Of the four categorical special purpose programs, the Disadvantaged Student Grant ($7.0 million) can best be described as a program whose particular purpose is to reinforce the mission of providing remedial and basic education services. Two other categorical programs, Economic Develpment grants and Advanced Technology can be considered equally as efforts to address program improvement and quality issues and are described in that section of the paper, while equalization has as its intention the preservation of student access for certain districts with low tax revenue/FTE and is described in the Equity and Fair share section.

The overall issue relating to mission recognition and categorical funding is the percent of funding (currently 23%) that is funneled through categorical, rather than the general, multi-purpose credit hour grant. The greater the number of categories, and the greater the percentage of total dollars, the more the state funding formula moves in the direction of a state regulated model of funding, rather than a more flexible "state-aided," or even "structured incentive" funding model. Over the last few years categorical funding has increased, but the primary reason has been increases in equalization funding, rather than the categorical grants aimed at mission recognition.

Mission Recognition and Credit Hour Grants

Eight instructional funding categories were used for the first two years of the new plan (FY 77-79) in the general, multi-purpose credit hour grant component. These were reduced to five during the period of FY 79-81. The FY 81 funding plan revisions, however, were aimed at correcting certain mission funding concerns that arose particularly because of this condensing of funding categories down to five (1-Baccalaureate, 2-Business/occup, 3-Technical/occup, 4-Health and 5-General studies). The main problem arose in the General Studies area, which had combined both remedial, developmental and vocational skill programs (previously separate under the original plan) with all "other general studies." Pulled down by the low unit cost of Chicago courses in the remedial and developmental areas, the FY 81 report (1979, p. 9) found that "as a result, many colleges were forced to limit the number of remedial/developmental and vocational skill courses that they could offer at their college."

With the objective of recognizing and protecting the missions of non-degree, vocational skill training and remedial education, the new and current funding formula created the categories of 1) Remedial Developmental and 2) Adult Basic Education/Secondary and added the vocational skill training courses to the funding categories relating to occupational degree programs. This reversed the FY 79-81 modification and restored several of the the "Blue Ribbon" committee differential rates.

The revisions, however, at best can only be considered partially successful. The vocational skill category did receive a tremendous boost. On the other hand, the ABE/ASE category is still a "depressed" rate category because of the low unit cost of Chicago. A proposed differential rate for Chicago versus the rest of the state was rejected in FY '81 and has not been proposed again. Finally, the removal of these three types of courses from the General Studies category, left the category of "general interest" courses approaching what many would consider community education. See next page for a list of general education courses currently funded at one suburban Chicago community college).

The General Studies funding situation has rapidly deteriorated to the point where if a "pure" residual formula of equal local revenue deductions from each program unit cost was applied, as understood by the "Blue Ribbon committee, the category would not be eligible for any state funding. This happened in FY 1983 and to avoid a "negative credit hour" grant rate, the pure equal deduction, "residual" formula concept has since been "compromised" each year, by adjusting, (primarily on a non-cost related basis), the local revenue that is assumed to support this category and by adjusting the local revenue assumption in other cost categories. The result is a $1.00 per credit hour rate for this category, providing colleges $307,049 (0.2%), out of $137.2 million in the credit hour grant component in FY 1986, accomplished only after both major alterations and complexity are applied and added to the standard "residual" formula.

ILLINOIS APPROACHES TO FAIR SHARE AND EQUITY

Two major issues of equity and fair share can be identified in the current formula. First, the "fair share" division on costs between the college and the state is reflected in the priority the state places on any single funding category in the credit hour grants. Secondly, the question of equity of tax resources is addressed through the concept of equalization.

Fair Share Division of Costs

The state "Blue Ribbon" committee (1975, p. 41) that established the formula maintained that the state's fair share should be "100% of the differential cost between state-wide average cost for each program categroy and a standard local contribution." The two exceptions were for general studies for which 1) the recommendation was for paying only 50% of the differential and 2) for community education, for which they recommended receive no state funds. The residual cost, the state obligation, is determined by deducting an assumed, per credit hour, local tax and tuition revenue factor. The philosophy is that local costs for any program category should be the same, with the state picking up the difference to avoiding any disincentive for a college to offer a high cost program or incentives to overproduce low cost programs. The net result of this approach is to establish a state average percentage of funding per category of 26.5% in FY 1986, but with ranges from a high of 42.7% for Health to 1.8% for General Studies. With the local share assumed set, and equal, it is the state portion that fluctuates, based on local program priority and overall program cost. By definition this approach does not (except to maintain funding in General Studies) attempt to establish any deliberate state incentives, nor does it presume that the state has a equal financial obligation toward each category. It does, however, have an obligation to "fill the gap." It is important to note that the state funding level under the current funding formula is considerably under the 1964 Illinois Master plan for higher education that stated "the state share shall be approximately 50% of the average operating cost of the system."

Equity of Local Financial Resources

The concept of equalization recognizes that not all districts have the same relative ability to obtain revenue from local tax sources to such a degree in some districts that "students in such districts are denied equal access to educational opportunity" (ICCB, 1979, p. TA-46). The state's responsibilities are at least to "partially" equalize this access (generally on the average) to local tax revenue per FTE. In Illinois the method for determining eligibility for equalization funding is as follows:

> Each district's audited EAV is divided by the latest audited in-district and chargeback FTE for that district, in order to determine (1) the district's EAV/FTE. That EAV/FTE is then, (2) multiplied by the statewide weighted mean net operating tax rate ...Each individual district's local tax revenue is then compared to statewide 'threshold.' On a statewide basis, a threshold amount of dollars ... is determined by (3) summing all EAV statewide and (4) dividing by total in-district and chargeback FTE for the state and (5) multiplying that figure by the standard (statewide mean) tax rate (to obtain the 'threshold' per FTE). The difference (6) between the statewide threshold and the individual district's local tax revenue/FTE is the amount which that district is eligible to receive through equalization.

The current equalization plan assumes that all FTE are equal. Of course, in reality, we know there are significant differences in the unit costs of providing programs to certain FTE's. The only partial acknowlegment of this difference that is provided currently is a complicated "program mix" adjustment that recognizes that the assumed local tax contibution for general studies in FY 1986 is less (18.58 versus $26.10) than for all other cost categories. While this is 28% below the standard assumption, in terms of real program unit cost there are disparities that exist between FTE costs for all cost categories which are not recognized in the equalization formula. The chart below demonstrates the difference that exists between each cost category and the average unit cost. The net effect of the current equalization plan is to provide excessive weight to certain low cost FTE's in the calculations:

program category	unit cost FY 1983	percent difference from average
Baccalaureate	$73.59	+6.7%
Business	$70.99	+3.0%
Technical	$83.10	+20.5%
Health	$106.93	+55.1%
Remedial/Dev	$68.01	-1.3%
Adult Basic/ASE	$42.73	-38.0%
General Studies	$43.84	-36.4%
Average	$68.94	

ILLINOIS APPROACHES TO PROGRAM IMPROVEMENT AND QUALITY

Illinois has used both categorical and it's multi-purpose credit hour grant programs to address issues of program improvement and quality. Two categorical programs, and possibly a third, can be considered as specific responses to program improvement and quality concerns. These are the Economic Development Grant, the Advanced Technology Grants and, a third, which also is a categorical program aimed at mission recognition, the Disadvantaged Student Grant.

A review of the FY 1986 ICCB Budget request and the guidelines established for colleges use of Economic Development and Advanced Technology grants make clear that program enhancement is contemplated. The ICCB request states that Economic Development monies are "to continue providing state support for vital economic development services and to provide an incentive for enhancing these services." Advanced Technology monies are provided particularly to upgrade and improve equipment in a wide range of curriculum impacted by changing technology. Both Economic Development and Advanced Technology are relatively new programs with the first, started in FY '84 and the second last year as a competetive grant program. This marks the first year that Advanced Technology funds are distributed on a Formula basis and marks a switch from a "program budget" approach stipulated in the enabling legislation.

The "Blue Ribbon" committee (1975, p. 48) suggested that the Disadvantaged Student monies should be used for program improvement. "The education of educationally disadvantaged students requires significantly greater expense than is normally incurred in regular classroom activities...funds are needed for tutoring counseling, and other supportive services."

The regular credit hour grant in FY 1986 also makes provisions for "providing quality education." Specifically, the ICCB requested a 20-cents-per-credit-hour rate supplemental be added to the residual grant "to provide funds for curriculum development, improvement and evaluation" (1985a, p. 7). The Governor and legislature approved a "supplemental" of 10 cents for three of seven categories. While the credit hour grant was developed with the quality improvement "decision rule," the effect may be more symbolic than real. That is, since the IBHE, Governor and legislature funded a total credit hour rate less than the ICCB request, the maintenance of this element in the funding plan was compensated by the reduction of some other element. The inclusion of "quality improvement" factors in the general multi-purpose Credit Hour Grant is a good illustration of the difference between the use of formulas for budget request versus their impact on the actual allocation or use of funds at the institutional level (Gross, 1982). Institutions, of course, receive only a lump sum under the credit hour grant and are under no obligation to actually engage in any "quality improvements."

RECOMMENDATIONS FOR IMPROVEMENT OF ILLINOIS FUNDING FORMULA

The analysis of four critical issue areas, 1) enrollment linkage, 2) mission recognition, 3) equity and fair share, and 4) program improvement and quality, has identified problems in the current funding formula that can and should be addressed. The recommendations in this section are aimed at correcting, or at least improving the formula in areas where problems have been identified. The recommendations are divided by the four major issue areas and a general rational follows each set of recommendations.

ENROLLMENT LINKAGE RECOMMENDATIONS:

1) The formula funding linkage to enrollment should be retained, but the enrollment base factor and cost factors should be "buffered" from fluctuations, through the use of multi-year averaging both for credit hours and unit costs (3 yr averaging).

2) The small college "fixed cost" concept should be retained as an equalization concept and expanded to cover the entire non-state portion of fixed cost (i.e. 2/3 of fixed costs).

3) The state should undertake a study to consider "decoupling" the operations and maintenance cost component of the funding formula as contemplated by the FY81 funding recommendations.

Rationale

The concept of buffering through the use of multi-year averaging of both unit costs and credit hour grants is recommended because it is a clear and relatively simple modification in the current formula. The concept of buffering is already somewhat established with the use of historical enrollment bases and cost studies which have inflationary updates added. For FY 1987, the credit hour bases of 1983, 84 and 85 would be used along with the unit cost for the same years. This approach to "buffering" is less complex than changes such as "corridors" or other techniques. Wattenbarger and Mercer (Forthcoming, p. 54) describe three year averaging as one of the emerging funding trends. The recommendation while providing an technically improved method, will not undermine the communication function of the formula (Miller, 1963).

The multi-year averaging concept should "buffer" fluctuations of two types that occur in the formula. First, annual fluctuations that occur at individual schools, especially those with high state dependence that have difficultly adjusting their budgets to such fluctuations. Second, the multi-year average should reduce the extreme leverage that the Chicago system exercises over several cost categories and the somewhat sporadic fluctuations that occur within certain cost categories.

The small school "fixed cost" recommendation suggests that the state should recognize that the non-state "local contribution" that maintains the core functions (fixed costs) at the institutions ultimately rest on the local tax base of a district since both state and tuition are variable. While the state shares some responsibility by funding approximately 1/3 of the costs, the pressure at the local level is really on the tax base, if community colleges are to retain the goal of open access institutions and low tuition.

The "decoupling" recommendation suggests that for certain cost functions, funds should perhaps be allocated to institutions on a basis other than credit hour volume. The operations and maintenance component, approximately 15% of unit cost is frequently allocated by measures such as square feet, energy usage and other facility sensitive workload measures in other states. The FY 1981 funding revisions (1979b) suggested that non-enrollment based factors be considered in the formula (recommendation 5, page TA-73) and the national state of the art would certainly indicate that "decoupling" of this area is possible.

MISSION RECOGNITION RECOMMENDATIONS:

4) The primary reliance on a system of limited, but sufficient number of differential funding rates to provide for mission recognition and diversity, should be retained.

5) The use of categorical programs to provide for special mission recognition is appropriate and should be continued as long as it represents a limited portion of the overall funding plan.

6) Reestablish the original "Blue Ribbon" principles that suggested that funding opportunities be provided for all missions, but not necessarily state funds, such as for community education and general studies.

7) The general studies category should not receive higher priority in state funding than other cost categories and should not be state funded if it cannot meet "residual standards" met by other cost categories. The assumed local tax contribution should not be artificially lowered, thereby increasing state funding responsibilities.

8) The state should consider a study of methods to recognize the local funding effort for categories such as community education and general studies, perhaps along the same lines as fixed costs are acknowledged in the equalization formula.

Rationale

The current categorical set-aside (23%) is approaching a undefined limit (25% ?) that may start to convert the funding system away from a flexible "state-aided" system toward a "state-regulated" funding system (Curry, 1982) with state established goals. A natural tension between mission definition and institutional autonomy is inevitable, but reliance on the system of differential funding rates with a limited number of categorical programs should help preserve diversity in the system. This adds expertise to the formula without sacrificing its basic communication abilities (Miller, 1963).

The "Blue Ribbon" committee along with many national experts, such as Breneman (1981), argue on behalf of less, not greater state priority on general studies. The current practice of adjusting the entire formula to provide state support for a category least appropriate to receive funding is a misplaced priority. On the other hand, recognition of local funding of general studies could be made a factor in the determination of equalization. This would be in keeping with the original "Blue Ribbon" concept (1975, p. 41-42) addressing community education funding. Recognition that a certain part of the tax base is set aside for this mission and not available for support for other programs places the responsibility for funding this category appropriately, at the local level. This recommendation would also continue to encourage districts to accurately record these credit hour since they would be included in the funding formula in the calculation of equalization in two ways.

The alternative of simply dropping the general studies category with no additional provision for funding should be considered as a backup and is perferable to the current annual complicated readjustment of the formula to accomodate some level of state funding for this category which undermines the formula's communicating abilities and technical accuracy.

FAIR SHARE AND EQUITY RECOMMENDATIONS:

9) The system of residual funding of credit hour rates should be retained, but the assumed local tax contribution should vary by category based on a system of "structured incentives," reflecting a philosophy that the local district and state have differing responsibilities toward funding of different types of programs.

10) A study should be undertaken to determine what would be appropriate cost shares between the state and local district by category with a recognition that ultimately, such divisions are choices of values. Initial evaluation should be given the economic derived priorities of Breneman (1981) who places the highest state priority (and lowest local funding obligation) on the Baccalaureate, Remedial and Adult Basic Education categories.

11) The Equalization Funding plan should be revised through the use of a weighted FTE concept based upon the unit cost differential of programs. Based on a weighting of 1.0 for average unit cost, the weightings by cost category based on FY 83 data (used in 1985) would have been Baccalaureate (1.07), Business (1.03), Technical (1.21), Health (1.55), Remedial (.99), Adult Basic (.62) and General Studies (.64). Of course, these weighting could also be averaged over a multi-year basis.

Rationale

The concept of establishing a different understanding of the basis upon which cost is shared between the state and local government is offered as an alternative to the two options currently under discussion. The ICCB has advanced, at least philosophically, the concept of the local and state share being divided by a fixed percentage (i.e. 1/3 local, 2/3 state for each category). This contrasts with the current approach that limits the dollar limit of an assumed local contribution to a fixed dollar amount. The recommendation suggests that there are either implicit or explicit value choices involved in each of these alternatives. The recommendation contained in this report rejects the concept of equal percent (1/3) on the basis that there may be some categories for which the local contribution should be less than 1/3 and some where it should be more. The report's recommendation also suggests that there are certain program categories in which the local contribution should be less than a predetermined standard based on the assumption that the state "ought" to have a higher obligation to fund certain programs. For the most part "economic benefit" theory is advanced as the basis of a differential in cost sharing by program.

The change in the equalization funding plan is based on the concept that a direct transfer of a elementary and secondary school concept to community college funding is inappropriate as Garms (1981) has maintained. The use of weighted FTE, or weighted credit hours, for that matter presumes that the differences in program costs and the differing educational needs of the students of each district should be recognized in the funding formula. Unlike The elementary and secondary level, where curriculum is standardized and therefore costs are standarized, different community college districts emphasize different missions and such differences should be reflected in this part of the funding plan as they are in all other aspects of the formula funding plan

The Equity recommendations should assist fulfillment of both expertise or technical objectives along with making the value choices clearer without significantly undermining the formula's ability to clearly communicate.

PROGRAM IMPROVEMENT AND QUALITY RECOMMENDATIONS:

12) The conversion of the Advanced Technology grant from a competitive grant program, primarily focused on equipment acquisition, is strongly supported and further broadening of this categorical program, perhaps by restricting the use of monies for equipment to 50%, would assure that the program improvement and quality would be a major focus of this categorical grant.

13) The inclusion of "quality improvement factors" in the credit hour grant, if allocation solely is on the basis of credit hour volume should be discouraged since it provides no guarantee that such issues would be addressed.

14) Inclusion of a very small supplemental grant per credit hour to be distributed on the basis of achievement of specific "performance indicators" should be considered at least as an area of study.

Rationale

The recommendations are developed with a recognition of a concern over developing further categorical programs. The broadened use of the advanced technology monies for curriculum development by restricting the percent for equipment is an attempt to work within existing categories, rather than creating an additional categorical program for program improvement.

The use of "quality improvement factors" within the credit hour formula is not really productive and the "factors" would be better applied to credit hour volumes in either the Economic Development or Advanced Technology categorical grants where there would be greater assurance that the goals of program improvement would be met.

The recommendation of a small supplemental qualitative "performance" factor, distributed through an established formula to institutions meeting the criteria has been used in Tennessee at both the 4 year and 2 year levels. Perhaps consideration should be given to a supplemental 1% of credit hour grants to be so distributed. This recommendation is included for a heuristic value and further study of appropriate mechanics and the overall desirability would be expected.

IMPLEMENTATION OF RECOMMENDATIONS

Fourteen Recommendations were outlined in the previous section, of which, two were supportive of existing policies. Therefore the remaining twelve each contain a modification in the existing formula "decision rules." While it is clear that some recommendations represent a significant change in policy, for the most part the suggestions are adaptations of approaches that have been successful in addressing comparable problems in other states.

Successful implementation will depend on the receptivity of several audiences. In particular, if the recommendations are considered innovation "products," both state-level policy-makers and institutional leaders are critical decision-makers concerning whether these innovations will be "bought into" and incorporated in the funding formula. In addition, therefore, to providing good technical solutions, the success of these suggested innovations is also dependent on the climate of opinion among institutional leaders and also upon the political practicality of the recommendations. While it would be expected that some of the recommendations will be more favorable received by some sectors of the critical audiences, it is hoped that taken as a package, they represent a practical and balanced solution.

A recent 1985 survey of institutional leaders run under the auspices of the finance committee of the Council of Presidents demonstrates that many of the recommendations have the potential for support. The complete straight tabulation results of the survey were obtained and are included in Appendix B. In addition several cross tabulations were also run with raw data obtained from the survey.

ENROLLMENT LINKAGE RECOMMENDATIONS

The major recommendation to "buffer" enrollment by multi-year averaging is an innovation that can provide significant assistance to colleges suffering from fluctuations. Technically the data to implement this approach is available. A recent survey (1985) of institutional leaders (Presidents and Business managers) found a high degree of support (64%) for the idea of multi-year averaging. While the strongest support was found among colleges south of Springfield (92%), Chicago colleges also expressed support. Implementing the concept in the near future, as declines in enrollment are on the horizon, should also assist the transition to the new approach. That is, it can now be expected that considerably more schools will be helped, i.e. are in need of buffering.

The small college "fixed cost" concept has strong appeal with over 79.2% of the recent survey respondants favoring the concept. There are, however, both pockets of significant opposition to the idea (suburban chicago) and differences over methodology. In fact the current approach incorporating the concept into equalization, has the lowest institutional support. On the other hand, the IBHE has strongly supported this approach. The recommendation, therefore, to expand the concept through equalization has the potential for receiving a favorable hearing from the critical "decision rule" maker, the IBHE. Practical considerations may require that this recommedation be phased in, if it has the effect of simply reallocating equalization dollars away from Chicago. Alternatively, or in combination, if the overall equalization "pot" could be increased by increasing the state "threshold," this recommendation may provide a means for increasing "fixed cost aid. Cost estimates would be in the $3.0 million range.

The recommendation calling for a "decoupling" study of the operations and maintenance cost component, will require the establishment of a state-wide committee and strong staff assistance from the ICCB. The idea is recommended for study, rather than immediate implementation, first because, the two other recommendations addressing enrollment links have greater priority, and, secondly, because the other recommendations are more immediately compatible with the existing formula approaches.

MISSION RECOGNITION RECOMMENDATIONS

The recommendations supporting the concept of differential rates as a primary method to recognizing diversity and mission along with the limited use of category programs endorse the current basic divisions between multi-purpose and categorical grants. The Disadvantaged Student grants, a mission reinforcement program, is well supported by institutions and is considered at the right emphasis level by the overwhelming majority (74%). With the exception of the funding level of the equalization category, the categorical programs are generally well received and considered appropriately emphasized. The state, however, should think carefully before continuing the recent trend to additional categories with potential opposition possible to further categories.

The three recommendations relating to the general studies program will require a significant change in policy. The recommendations urge that a more realistic assessment be made of the real nature of the general studies category. The recommendation does not question the legitimacy of the community college mission in this area, but does suggest that the responsibility should be local. Currently there is strong interest in principle for state reimbursement for general studies (81.3%), but this commitment does take a considerable drop (by over 20%) when the principle requires major formula adjustments. The ICCB staff has also expressed strong support for funding this category as demonstrated by it extensive review of alternatives in the "budget issues" paper (August, 1984).

The recommendation contained in this report should be viewed as an alternative to those previously advanced. It does not propose elimination of the category and it would remain a significant factor in both determining the threshold for equalization and secondly as a program category for which local tax revenues are expected to be set aside. The preservation and use of the category in the formula should have appeal to the report-keeping concerns advanced by the ICCB, and the very practical concerns of institutions with a high number of general studies credits.

FAIR SHARE AND EQUITY RECOMMENDATIONS

The two recommendations relating to changing the nature of deductions under the residual formula are significant departures from the existing policy. Suprisingly, in the recent institutional survey, the current aprroach, which assumes a "standard" local tax contribution deducted equally from each category, has the lowest support of three alternatives posed (25.5%). The highest support (38.3%) was garnered for the principle contained in this recommendation, i.e., differential cost sharing. The runner-up philosophy (36.2%) was the principle recently advocated by the ICCB, that a local district should never pay more than some set percentage for any program.

The latent support for the principles contained in the recommendation (currently without an advocate within Illinois) is, therefore, a strong indicator of potential interest. Of course, this interest could drop through a debate over what the exact shares by category should be. On the other hand, interest in the equal percentage approach faces the same practical "allocation impact" questioning, as the rates for some previously lower funded cost categories climb significantly.

The advantage of the differential cost-sharing approach is that it makes the value choices for state funding explicit, rather than implicit or obscured. That is, the responsibility function of budgets is enhanced. While the Breneman (1981) funding priorities do contemplate a lower state priority for general studies, the higher priorities for the ABE and Remedial areas should attract the favorable attention of the Chicago system. In fact a practical funding trade-off is proposed between increasing the state priority in funding these two categories and implementation of the weighted FTE equalization plan discussed below.

The weighted FTE equalization plan is recommended to establish a link between program cost and an FTE. It is intended to discount the low program cost FTE's and provide premium recognition to high cost programs. While this program could potentially receive considerable opposition, if done as a single recommendation, the implementation of this recommendation is proposed to run in tandem with the previous recommendations on credit hour deductions. That is, while less dollars may be available through equalization to Chicago under this particular recommendation, changes in credit hour deduction techniques following the Breneman funding priorities can act as a trade-off.

PROGRAM IMPROVEMENT AND QUALITY RECOMMENDATIONS

The recommendations support the categorical grant approach as the best single means to focus efforts at program improvement and quality. The recent insitutional survey showed good to excellent support for the two categorical programs, Economic Development and Advanced Technology, that have program enhancement as an strong objective. The strategy of modifying the Advanced Tech grant is suggested, rather than creating a new program improvement category grant since it is believed that potential opposition could develop over increasing the categorical grants. In fact, concern over this trend was expressed by a number of presidents at the ICCB "budget issue" hearings held in August of 1984.

The possible lack of support for performance funding is acknowledged in the final recommendation that suggests this area only for future study. The recent survey found that 50% had "no established position at this time." On the other hand, a strong minority expressed opposition to adding this component to the funding plan. The recommendation suggests that even when adopted, this component should become a small supplemental incentive and not replace the enrollment volume factors.

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FRAMEWORK FOR ANALYSIS

In 1940 V.O. Key asked the basic budget design question "on what basis shall it be decided to allocate X dollars to activity A instead of activity B?" The question makes it clear that budgeting is a "decision" making system involving a process with the output of a resource allocation choice. But, what budgeting system is best for higher education? The answer is, "it depends." This section does not attempt to answer that question, but does provide a framework that would be useful to guide a state in determining its funding approach to higher education.

The framework outlined on the next page starts with the basic assumption that a higher education budget process operates as an open system which requires attention not only to the specific resource allocation procedures, but also the context in which they are expected to operate. The framework in skeletal form suggests that the interaction of five factors should be considered in the decision to select a budget system: 1) environmental trends, 2) ability in handling four critical issues, 3) the allocation methodology, 4) the state-institutional relationship (governance system) and 5) both substantive and procedural outputs.

ELEMENTS OF THE FRAMEWORK

ENVIRONMENTAL TRENDS: Five external trends should be reviewed for their impact on higher education funding: A) Enrollment, B) Socio-demographic, C) Occupational, D) Economic, E) Political.

CRITICAL ISSUES: Four critical issues need to be addressed by any higher education funding plan. It must be recognized that value choices and priority setting involving values are involved in and between these issues. In question form these are:

1) What will be the nature of the link to enrollment?
2) What will be the method chosen to assure mission and diversity recognition?
3) How will equity and "fair share" concerns be addressed including a) equitable funding among institutions, b) between the student and the state, c) between the state and a locally funded community college?
4) How will quality and program improvement concerns be handled?

ALLOCATION METHODOLOGY: Utilizing the classification predominantly drawn from Morgan (1984, p. 6, see next page) approaches are divided into two major schools, the rational calculation approach and secondly the market/political interaction model. The rational calculation approach includes the 1) rational-deductive goal models (PPBS, MBO, strategic planning), 2) marginal utility investment models (cost/benfit analysis, ZBB and qualitative performance budgeting), 3) cost reimbursement (performance indicator budgeting, and formula budgeting). The market/political interaction approach includes 1) incrementalism and 2) structured incentives.

STATE-INSTITUTIONAL RELATIONS: Based on Curry (1982) state governance systems have been divided into four models: 1) state-agency, 2) state controlled, 3) state-aided, 4) "free market". (See next page for detailed breakdown.) The models are represented on a continuum between greater institutional autonomy ("free market") and greater state control (state agency). A state's governance system provides a contextual environment in which the allocation system operates. Certain types of allocation approaches are more or less likely within each of these models.

PROCEDURAL/SUBSTANTIVE OUTPUT: In addition to the substantive output of

Figure 1. Resource Allocation Strategies

Root Assumptions	Allocation Model	"Old" Strategies	"New" Strategies	Strengths	Weaknesses
Rational Calculation	Goals (Rational-deductive)	Planning-Programming-Budgeting System (PPBS) Management by objectives (MBO)	Strategic planning	• Focus on ends • Relating means to ends • Sense of direction	• Assumption of knowledg • Consensus • Flexibility/opportunism
	Investment (Marginal utility)	Benefit-cost analysis Zero-based budgeting (ZBB)	Performance budgeting	• Focus on results • Objectivity • Manageable scope	• Valid criteria • Reliable measures • Ad hoc nature
	Cost reimbursement	Performance budgeting (1940s, 1950s) Formula budgeting	Marginal-cost formulas	• Simplicity • Routinization • Equity	• Status quo • Lack of planning
Market Interaction	Interest-group bargaining	Logrolling	Domain defense	• Political rationality • Feasibility	• Nondirectional • Status quo • Tyranny of majority
	Structuring incentives	Vouchers Health maintenance organizations (HMOs) "Every tub"	Responsibility-center budgeting Incentive planning	• Responsiveness • Competition • Decisions close to action	• Absence of market conditions • Nondirectional • Lack of central controls

Table 1. Models of State-Institutional Relationship

Characterization	State Agency	State-Controlled Institution	State-aided Institution	Corporate or "Free-Market" Model
Financing	1. All funds received deposited in general fund and subject to appropriation control 2. Fees and charges prescribed by legislature 3. Financial responsibility for higher education operations vested solely in state government	1. Operating fee collections deposited into state 2. Tuition levels prescribed by legislature 3. Services and activity fees, auxiliary enterprise, revenues, etc. treated as "nonbudgeted" funds 4. State government primarily responsible for financing higher education operations	1. All funds raised by institution retained locally 2. Fees and charges established by institutional governing boards 3. Only state general funds subject to state appropriation 4. Financial responsibility shared by state and institution	1. Institutions control o funds 2. State appropriations m to third-party state agency to contract for services and enrollmen opportunities 3. Ultimate financial responsibility vested corporate institutions
Budgeting	1. The budget request reflects a spending plan 2. Specific workload factors serve as basis for institutional request 3. Relative efficiency a major criterion 4. Legislature approves spending level for programs, major activities and objects of expenditure within programs and activities; adherence expected	1. Variety of formula and incremental bases may be employed 2. Detailed budget requests prepared and submitted by institution, although major funding decisions are based on activity levels, base budgets or other broad factors 3. Funding bases tend to be perceived as spending plans rather than funding vehicles	1. State support based on a general allocation formula — e.g., $/FTE resident student 2. Appropriation on a lump sum basis	1. Contract amounts deter mined through negotiat or external indices 2. State budget decision on number of spaces or levels of services "purchased"
Accountability	1. Accountability focused on process considerations — adherence to spending plans, personal policies, etc. — with relatively little attention given to effectiveness of services provided	1. Oversight focused on process considerations, with relatively little attention given to effectiveness of services provided	1. Financial records must be auditable 2. Accountability reporting established as a parallel process; some focus on effectiveness	1. Financial records must auditable 2. Contract specifies mea of "satisfactory perfo mance"

Source Jones, 1984.

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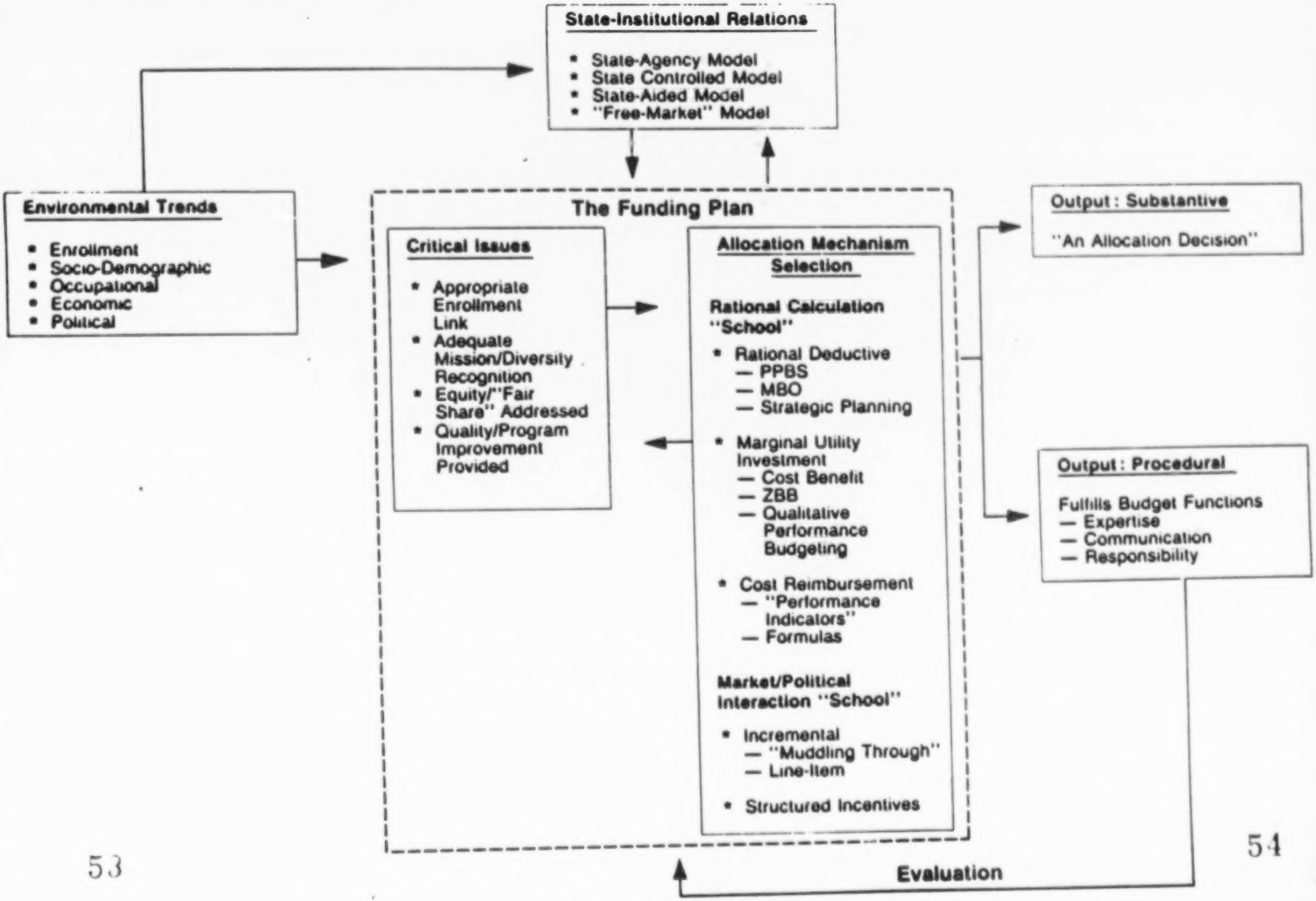
a resource allocation decision, a budget system is presumed to attempt to fulfill three functions that of: 1) expertise, 2) communications and 3) responsibility (Miller, 1963, pp. 68-91). These outputs are procedural requirements of any budget and provide a feedback loop to evaluate the specific allocation approach selected. The effectiveness that an allocation approach performs these three functions become critical evaluation factors to assist in the selection of a budget system. The question becomes to what extent the selected approach fulfills these three functions, given all other factors in the framework.

The critical elements of each function and key questions are as follows:

1) Expertise function--It consists of "measurement and comparison of the consequences of alternative future expenditures...made in quantitative terms insofar as possible. It is the collection, analysis and expert evaluation of information. Its aims is to make the value choices (of the alternatives) clearer.
2) Communications function--It consists of both "ascertaining views of affected interests and communicating those views to key decision makers, particularly the Governor, legislature and higher education agency."
3) Responsibility function--It consists of making the value choices within context of a clear understanding of the fact situation and value choices. To what extent are the value questions sufficiently highlighted?

A three function procedural output analysis of any funding approach should attempt to determine to what degree each function is advanced or hindered. Formulas that successfully perform the expertise function, for example, may poorly perform on the communication or responsibility function. In fact one of the major tradeoffs faced by many formula modifications is between increased expertise or technical correctness in certain complicated formulas and the ability to communicate the allocation decisions involved . On the other hand some formulas do an outstanding job at both the expertise and communication function, but are inadequate on assisting the execution of the responsibility function, since many of the values involved in the formula are implicit rather than explicit. Balance between the three functions is obviously sought and tradeoffs exist for virtually all funding plans.

Framework to Analyze Funding Plans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• State-Agency Model
• State Controlled Model
• State-Aided Model
• "Free-Market" Model
Environmental Trends
• Enrollment
• Socio-Demographic
• Occupational
• Economic
• Political
The Funding Plan
Critical Issues
• Appropriate Enrollment Link
• Adequate Mission/Diversity Recognition
• Equity/"Fair Share" Addressed
• Quality/Program Improvement Provided
Allocation Mechanism Selection
Rational Calculation "School"
• Rational Deductive
— PPBS
— MBO
— Strategic Planning
• Marginal Utility Investment
— Cost Benefit
— ZBB
— Qualitative Performance Budgeting
• Cost Reimbursement
— "Performance Indicators"
— Formulas
Market/Political Interaction "School"
• Incremental
— "Muddling Through"
— Line-Item
• Structured Incentives
Output: Substantive
"An Allocation Decision"
Output: Procedural
Fulfills Budget Functions
— Expertise
— Communication
— Responsibility
Evaluation

APPENDIX B

ILLINOIS COMMUNITY COLLEGE FUNDING FORMULA

General Information (Please check appropriate line)

College Location:
6.1% (3) Chicago
28.6% (14) Metro Chicago (6 county area)
26.5% (13) South of Springfield
38.8% (19) North of Springfield,
including Springfield
but excluding chicago metro area

Equalization: Tax Base
Yes 51.1% (24
No 48.9% (23
Fixed/Cost
Yes 46.3% (19
No 53.7% (22

Credit Hrs/year:
Over 500,000 4.8% (2)
150,000 to 500,000 26.2% (11)
75,000 to 150,000 26.2% (11)
Up to 75,000 42.9% (18)

---

1. The Illinois Funding Formula currently includes a number of components and factors which reflect a combination of philosophies including a reliance on credit hour generation, an attempt to equalize the tax capability of districts and special grants for the disadvantaged, economic development and advanced technology equipment. A separate repair and renovation formula allocated grant was developed for FY86. Please evaluate the current priority of these elements in light of your own personal philosophy of an ideal total funding plan using the following scale:

	about right emphasis	reduce emphasis	increase emphasis
a. Cr.Hr grant	40.0% (20)	2.0% (1)	58.0% (29)
b. Equalization	32.0% (16)	38.0% (19)	30.0% (15)
c. Disad. St.	74.0% (37)	16.0% (8)	10.0% (5)
d. Econ Devel	56.0% (28)	14.0% (7)	30.0% (15)
e. Advanced Tech	34.0% (17)	24.0% (12)	42.0% (21)
f. Repair/renov	36.0% (18)	14.0% (7)	50.0% (25)

2. The Illinois funding formula is a residual funding formula (i.e. state funds are determined by deducting local available revenues), and the methods of deductions reflect differing philosophies. Which of the following approaches best reflects your own philosophy? (Pick One)

25.5% (12) a. Deductions, such as for the local tax contribution, should generally be made uniformly and equally in terms of dollars from each funding category. This reflects the philosophy that local costs for any category should be the same, with the state picking up the difference in dollars, thus avoiding any disincentive for a college to offer a high cost program.

36.2% (17) b. Deductions, such as the local tax contribution, should vary based on a percent of total cost (for example, one third) with the state picking up the difference between that percent and total cost. This reflects the philosophy that the local district should never pay more than some set percentage for any program.

38.3% (18) c. Deductions, such as local tax contribution, should vary based a percent of total cost, but this percent should vary by category, reflecting differing priorities among the categories. This reflects a philosophy that the local district and state have differing responsibilities toward funding of different types of programs.

3. Do you generally support the concept that the funding formula should include an equalization element to reduce the disparity of local tax funds available per student among districts?

____Yes ____No
80.0% (40) 20.0% (10)

4. During the period of FY 81 to FY 85, the share of total ICCB funds to colleges that has been devoted to equalization has grown (15% to 20%). This growth was the result of the formula principles in operation at the time. Assuming that an equalization element will remain, which of the following statements best reflects your philosophy of allocation

52.0% (26) a. Equalization funding growth should not exceed the growth of credit hour funding and should reflect equal percent increases.

48.0% (24) b. Equalization growth should be allowed to exceed the growth rate of credit hour funding if the equalization formula calculation so determines.

Other equalization comments:____________________________________

5. In principle, should the state reimburse for general study courses?

____Yes ____No
81.3% (39) 18.8% (9)

6. Should the state continue to provide reimbursement for general studies at a minimum of $1.00, even if it requires adjustment in the formula to accomodate state reimbursement?

____Yes ____No
60.0% (30) 40.0% (20)

7. In principle, do you favor the inclusion of a fixed cost element in the funding formula?

____Yes ____No
79.2% (38) 20.8% (10)

8. If a fixed cost element is included in the funding formula, which of the proposed methods of funding do you favor:

35.4% (17)____a. part of credit hour grants, allocate fixed cost first to every college, then allocate remaining dollars by credit hour generation to all districts.

27.1% (13)____b. part of equalization, by reducing EAV necessary to pay for one third of fixed costs

37.5% (18)____c. separate grant, for districts that spend more than average percentage of local taxes for fixed cost activities.

____d. None of the above, but I am closest to ____. Please explain____
____

9. In an effort to stabilize fluctuations in credit hour generation and unit costs, would you favor a modification in the current formula that would average these factors over a multi-year basis (i.e. two or three years)?

____Yes ____No
64.0% (32) 36.0% (18)

10. Under the current formula, credit hour generation plays a major role. In recent years considerable literature and discussion has been devoted to academic performance based funding and several states (eg. Tennessee, Ohio) have added this element to their funding approach. Which of the following reflects your own view on this matter:

14.0% (7)____a. Performance funding should be added to the Illinois funding formula as a special categorical program, supplemental and additional to the current funding plan.

6.0% (3)____b. Performance funding should be added to the Illinois funding plan, even if it requires us to reallocate dollars from other categories

30.0% (15)____c. Performance funding should not be added to the Illinois funding plan.

50.0% (25)____d. No established position at this time.

STATE FINANCING OF HIGHER EDUCATION UNDER CHANGING CONDITIONS
THE ILLINOIS COMMUNITY COLLEGE SITUATION
PART II

NATIONAL TRENDS AND ANALYSIS

A Preliminary Qualifying Examination
Center for the Study of Higher Education
The University of Michigan

by

Richard Fonte
August 12,1985

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HISTORICAL TRENDS IN STATE FINANCING OF PUBLIC HIGHER EDUCATION

Public higher education institutions derive their largest share of funding from state government sources. State revenues, in the form of legislative appropriations, accounted for 44% of all funding for public 4-year institutions and 50% for 2-year public institutions in 1980-81 (NCES, 1983, p. 76). Yet, looked at closely, the budget processes of our fifty individual states provide different answers on both goals and methodology to the question of who ought to pay the costs of public higher education and how it should be accomplished.

FUNDING GOALS AND PURPOSES

Brubacher and Rudy (1976, p. 399) suggest that a universal goal of American higher education has long been a broadening concept of access and democratization "so that more and more persons have the opportunity to secure some form of post-secondary training." Goals of access, however, are blended with accountability and equity objectives and the desire for a systematic, planned response to the diverse needs of students and institutions in nearly all funding plans.

Breneman (1981, pp. 39-47) summarizes the general argument on behalf of public financing in economic terms stressing that the consumption of higher education produces "public benefit" as opposed to solely private benefit. Therefore, higher education can be seen as a "merit good", similar to parks, libraries and museums--something the public thinks is desirable, "but would be provided insufficiently by private enterprise" (Garms, 1977, p. 42).

FUNDING APPROACHES

The most frequent public higher education financing approach to provide state dollars to public institutions, is formula funding. Formula funding is defined "as a set of objective procedures that utilize pre-determined ratios and/or cost parameters to estimate certain future financial requirements of an institution" (Hale and Rawson, 1976, p.19). Currently, the formula procedure is applied to approximately 50% of all states at the 4-year level and a little over two-thirds of the states reporting use of formulas at the community college level (Gross, 1982,; Leslie, 1983; McKeown, 1982; Wattenbarger and Mercer, forthcoming, pp. 7-33). (See Appendix A for list of states using formulas). The most frequent alternatives to formula funding are incremental and program budgeting. Renewed interest has also occurred in certain forms of performance budgeting and in blends of all of the above approaches.

FUNDING LEVELS

Long-Term Trend

The emphasis on state funding is a long-term historical phenomena for institutions of public higher education, particularly at the four year level. In fact the Carnegie Council (1980, p. 143) reported that the "percentage of funds provided by state governments has been remarkably stable" during the period of 1939-1976 for all public institutions taken together (See chart detailing Carnegie information in Appendix B).

Community College Trend

A special caveat to funding stability must be pointed out, however, since the two year community colleges, reflected in data, were only a small part of the public sector before the 1960's. In reality the two-year public sector dependence on the state is a more recent occurence, and even now, is not uniform nationally. There are still some states with large community college systems, such as Illinois, Michigan, California and others, that receive significant revenue from local sources. However, even in these systems, the state share is at least one third of revenue sources and must be considered a major fund provider. A comprehensive state by state breakdown is provided for community college funding sources in Appendix C.

Previous Decades

In aggregate a little over $28 billion was appropriated for 1984-85 by state governments. In 1960-61 the total was only $1.5 billion. An increase of 148% in state appropriations occurred during the last decade from the 1974-75 base of $10.9 billion. The ravages of inflation of 111.5%, however, took their toll during the decade bringing the 10 year change, less inflation, to only 17%. By contrast the previous decade had achieved a 152% increase even after inflation (M.M Chambers, 1970-1984: See Appendix D, for year by year breakout).

FY 78-FY 82

Interstate Comparisons compiled by McCoy and Halstead (1984, pp. 1-10, 88-95) provide an indepth look at period FY 78-FY 82. They reported that during this period the average decrease in constant-dollar appropriations per student was 5.3%, with 35 "states unable to cover the inflation rates of 44.3% and enrollment gains that averaged 5.6%." They found that higher education available funds remained at the same percent of the total overall "pie" available from state and local revenue sources (at 9.6%).

Recent Trends

Chambers reports a 16% two year increase (+8% after inflation) for the 1984-85 over 1982-83 for all public institutions averaged together. Community colleges, however, are increasing 13%, or less than average. Nationwide, since the late 70's, the rates of two-year gains for community colleges that receive only partial state funding, have been less than the average gain (Grapevine, 1984, p. 1986).

HISTORICAL INFLUENCES ON HIGHER EDUCATION FINANCING

Six developments can be identified that influenced the nature of higher education financing at the state level. These were the: 1) regular state appropriations, 2) early community college financing by the local level, 3) the executive budget movement, 4) the development of state higher education agencies, 5) the general acceptance of a standarized classification of financial accounts, and 6) cost analysis procedures.

Regular State Appropriations

The development of regular state appropriations to state colleges and universities is a late 19th century idea. Rudolph (1968, p. 261) reports that "when the federal government in 1890 began to provide annual appropriations for the land grant colleges, the sky in a sense cleared; soon state legislatures were fully doing their part." State aid during most of the nation's first century was in the form of land endowments, lotteries and occasional special appropriation (Brubacher and Rudy, 1976, pp. 35-36).

Early Community College Financing

Although community colleges would also eventually benefit by the late 19th century development of state appropriations, the first law providing for the establishment of junior colleges, passed in California in 1907, made these colleges extensions of public high schools with an accompanying local source of financing. This local financing pattern was so well entrenched nationally that state aid was listed at 5% in the 1920's and only 26% in 1950 (Cohen and Brawer, 1982, p. 128). The essential point is that community college financing shares a supplemental, local secondary level financing heritage, along with the inheritance of college and university financing.

Executive Budget Movement

Starting around 1910 state governments across the country began to modify their budget process to strengthen the role of the governor in developing the budget. State agencies under an "executive budget" approach submit their requests first to the Governor who is responsible for developing a comprehensive expenditure plan for state government. Prior to this time, state agencies along with colleges and universities, had submitted requests directly to the legislative body (Caruthers and Orwig, 1979, p. 26; Moss and Gaither, 1976, p. 544; Miller, 1963 p. 39).

The executive budget concept once firmly established raised the fundamental question of the relationship of higher education to state government, the governor, and the governor's budget process. In particular, to what extent are colleges and universities to be treated as other state agencies?

Higher Education Agencies

The growth of higher education enrollment and the increased number and type of higher education institutions during the 1950's and 1960's encouraged a growth of various mechanisms for statewide coordination of higher education (Hines and Hartmark, 1980, p. 13; Miller, 1963, p. 99). A 1983 ECS report (p. 26) reported 26 (25 with budgetary responsibilities) coordinating boards established to operate between governing boards of institutions and the governor and legislature. An additional 22 states have consolidated governing boards. Berdahl (1971) stressed the potential effectiveness of the "coordinating" agency as "an intermediary between state government and higher education" and as a mechanism for channeling political conflict. Miller (1963, p. 102, 111, 123) suggests that such agencies "can contribute to an improvement in state government-higher education relationships"...by...."a transfer of decision-making on some questions from the state's central administrative agencies" with decisions "made within the profession" rather than by outsiders. Miller favorably linked the development of budget formulas and coordinating agencies:

> They (formulas) offer to coordinating agencies a method for carrying out their budget preparation (or review) responsibilities, and they offer to higher education and state government alike a type of objective procedure which can reduce tensions by focusing attention on questions of policy rather than detail.

Appendix E matches state higher education agency types with funding mechanisms; the majority of funding formulas at the 4-year level are found in "coordinating" agencies.

Uniform Accounting Classifications

Uniform accounting classifications pioneered by Trevor Arnett spread nationally during the period 1930 to 1950, reaching the "universal acceptance" stage in 1952, when a revised classification was published by the American Council on Education. Miller (1963, p.30) suggests that this national adoption led higher education "to accept the general idea that expenditures for the several functional activities of a college or university (such as instruction, administration, and operation of the physical plant) can and should be separated...(this) is a major step toward the idea that comparisons among institutions are possible." Such comparisons, of course, are critical to the execution of formula budgeting and other "rational school" budget forms, such as program budgeting or PPBS.

Cost Analysis Procedures

A common accounting classification system was also critical to a third important development--cost analysis. John Dale Russell's cost analysis techniques were first used in the late 1920's and early 1930's to analyze expenditures of colleges and were adopted by the North Central Association as part of their accrediting standards. Once cost analysis became part of accrediting standards, colleges and universities, of necessity, had to focus some attention on the relationship of programs and cost. (Caruthers and Orwig, 1979, p. 39; Moss and Gaither, 1976, pp. 544-545; Miller, 1963, pp 27-28).

It is important to recognize that the cost analysis techniques were not an exclusive province of higher education. Robert Lee and Ronald Johnson (1977, p. 67) reports that Paul Beisser (who wrote on municipal budgeting), for example, was one of the first in 1915 to advocate unit cost measurement "as a means of directly relating resource consumption with the provision of services."

Cost analysis among other features, lies at the base of a number of budgetary approaches that can be classified in this so-called "rational school." In particular, these would include performance or program budgeting, formula budgeting, PPBS (Planning Programming Budgeting Systems) and ZBB (Zero Based Budgeting). With the exception of formula budgeting, these budget techniques have not been limited to a higher education application, but are general approaches used in state government budgeting.

Rational Budgeting and Early Formula Approaches

The first efforts to focus on programs, activities and functions and the cost relationship of inputs to outputs, were entitled "performance" and then "program" budgeting by successive Hoover Commissions which strongly advocated its adoption (Caruthers and Orwig, 1979, p. 27; Miller, 1963, p. 43). In fact by "the 1950's the use of program information in budgeting had become the mainstream of reform" (Lee and Johnson, p. 69).

Likewise, the first efforts at formula budgeting also took place in the early fifties. In particular the use of systematic procedures to justify higher education funding requests seemed to correspond to the needs of the time (Miller, 1963, pp. 32-35). Miller's analysis found that an expected large enrollment drop did not occur following the graduation from college of many of the post World War II veterans, but instead,

> the college-going habits of American youth had changed, and as the federally-assisted veterans left the campuses, they were replaced in almost equal numbers by non-federally assisted high school graduates. The full financial burden for these students fell upon the states.

Given these circumstances Miller reports the search for objective measurements of higher education cost is understandable with "state officials...seeking methods for evaluation of the ever-larger appropriation requests which they received ...(and) College and university officials seeking evidence which would make their request more convincing." (Miller, 1963, p. 108)

Performance Indicators versus Formula Funding

A Michigan Department of Education Study (1976, pp. 15, 16) suggested that nearly every state used "quantitative guidelines and measures" as part of the budgetary process but distinguished between "formula" and "performance indicator" states based on how qualitative measures are used. Purves and Glenny (1976, p. 53) classify as "performance budgeting" states those "characterized by the application of activity and workload measures as indicators of the reasonableness and justifiablity of an institution's request...applied in ad hoc review..(but)..not specified in budget instructions as the basis on which institutions should determine their budgetary needs." The 1976 Michigan study (p. 16) found 10 states using performance indicators, in addition to 25 formula states.

The Emergence of the Planning Component

Two budgeting approaches that emerged in the 1960's and 70's added a planning component to the program budget approach--PPBS, (Planning, Programming, and Budgeting Systems), and ZBB (Zero-Based Budgeting). PPBS and ZBB are rational decision making approaches through which fund allocation is based on measures of efficiency determined through cost benefit analysis. Glenny (1976, pp. 26, 29) found in his survey that 30 out of 42 executive budget offices surveyed "claimed that a PPB system had been implemented in their states" and that most states "persist in adopting some form of budgeting which is called 'program' although the forms differs dramatically from one state to another."

The Re-emergence of Performance Budgeting

Peterson (1977, pp. 2-4) noted the re-emergence of a new kind of performance budgeting in the 1970's which focused on program structure and also outputs and outcomes utilizing, frequently, qualitative measures of results. These approaches were described as "either a separate budgetary system or an integral part of a PPB system." The 1976 Michigan study found 6 states that collect and report outcomes measures in budget preparation and review process.

CURRENT AND FUTURE TRENDS

A state's higher education funding plan must be reviewed with some recognition of the trends that influence its current nature and future direction. If we consider higher education budgeting as an open system, (Katz and Kahn, 1978), an examination of five major environmental factors existing within each state can assist an evaluation of the desirability or necessity of funding plan changes. "From an open systems point of view the constancy of environmental inputs cannot be assumed, but must continually be the subject of investigation" (Katz and Kahn, 1978, p. 3). This analysis focuses on conditions relating to: 1) enrollment patterns, 2) demographic mix and societal trends, 3) occupational requirements, 4) economic factors, 5) political perspectives.

ENROLLMENT TRENDS

The Carnegie Council on Policy Studies published Three Thousand Futures (1980), which summarized the major enrollment declines expected nationally, based, in particular, on the significant declines in the 18-24 year old cohort. Carnegie (1980, pp. 34, 47) projected an overall decline within a range of 5% to 15% for the period through the 1997 academic year coming in two slides: 1) starting from fall 1983 to fall of 1988, and 2) from fall of 1991 to 1997. The National Center of Educational Statistics (1983, p. 72) showed enrollments stabilizing at 12.4 Million in the period of 1981-83, but predicted a drop, conforming to the more moderate Carnegie prediction starting in 1983, falling to 11.8 million by 1992 (-5%).

The aggregate declines outlined by the Carnegie Council (980) mask, however, the major variations in enrollment that will occur between states. The Carnegie Council report (p. 71) displays in map form (see Appendix F five levels of change by state with the East and Mid-West hard-hit, and enrollment growth occuring in parts of the West and South.

Funding Plan Impact

In addition to the direct adverse impact of loss of tuition with a drop in enrollment, in most formula budgeting states a certain portion of appropriations are directly tied to enrollments. Jones (1984a, pp. 65-66; Moss and Gaither, 1976, p. 556-558; Boutwell, 1973, p.43) suggest and demonstrate (Yeager and Linhart, 1978, p.14) that many enrollment based funding approaches are legacies of the growth era. In particular, in growth periods the real cost of one additional student (marginal cost) to the institution, is less than the average cost of a student.

Since most formulas were based on funding increases at average cost, institutions gained "a pool of discretionary resources" from the "slack" to enable them to fund program growth and quality improvements during the era of growth.

In times of enrollment decline, however, institutions can incur disproportionate funding losses, exceeding the real cost reduction of a loss of one student. That is, the decrease of one student in a class of a hundred, does not result in a 1% saving in the cost of teaching that class because of institutional fixed costs that are not directly enrollment related (Gross, 1979, p. 27; Hale and Rawson, 1976, p. 30).

The general overall trend in states with enrollment decline leads to a review of the average cost relationship, and leads to discussions of fixed cost, variable and marginal costs formula funding and other ways to "desensitize" funding from enrollment and find other means to fund quality.

Intra-state Variation

The SREB Report #28, *Budgeting of Postsecondary Education in the Eighties*, (1978, p. 2) points out that even among states served by the relatively better off Southern Regional Education Board, "enrollment over an entire state system may stabilize, but some institutions may contract, while others expand." Spence (1981, p. 4) in a later SREB report suggested that major universities "with prestige as their drawing card," and two year community colleges "with convenient locations and career-related courses" are likely to maintain enrollments. He continued:

> The ones likely to lose students are the smaller senior institutions in more rural areas. Urban institutions may be expected to grow, because they are convenient to the place-bound, older, working, married students who must attend part-time.

It also seems appropriate to conclude that rural, or declining urban or non-growth, old suburbs community disticts may also suffer declines.

Funding Plan Impact

The potential for differential impacts on certain institutions will encourage institutions to attempt to achieve distinctiveness, i.e. find their market niche. Spence (1981, p. 5) has suggested if the "equity" goal in the past meant similar dollars for similar activities, "the goal of equity will become as much the provision of different funds for different functions." The drive for diversity and mission reinforcement adds technical complexity to the formula approach through program or level differentiation, but also adds requirements for a program budgeting approach or priority determination in the incremental approach.

DEMOGRAPHIC MIX AND SOCIETAL TRENDS

Adult Enrollment and Part-timers

The baby boom generation, Boyer (1981, p. 4) points out is now entering middle-age and "will demand education to meet their needs as well as their schedules." While closely related to the part-time enrollment growth trend, the increase in adult attendance which Carnegie (1980, pp. 37, 167-169) places at +9% is also an independent social phenomena. Carnegie relates this to: 1) the more flexible pattern of "stopping in and out" participation and 2) that future cohorts of adults will have had some college, and are therefore, more likely to enroll and use college as a vehicle, for example, to address occupational needs. Christopher Dede (1983, pp. 3-4) reported that since 1970, the related phenomena, part-timers, have increased from 32% to over 40% of all enrollments.

Funding Plan Impact

The "stop-in and out" nature of adult attendance and part-timers is less consistent, and can lead to fluctuations of enrollment. The attendance of older groups is influenced by external factors, such as the economy and is more likley to be place bound and close to their homes (SREB, 1978, p. 2). Financial plans will need to address the uneven patterns of fluctuations from year to year.

Minority Enrollment Increases

Ernest Boyer (1981, p. 3) stated that the challenge to financing of higher education "will not simply be that gross dip in enrollment...it will be...changes in demography within that dip." He suggests that the "face" of young america will change, becoming substantially more black and hispanic. Dede (1983, p. 5) reports that the proportion of adults ages 18-24 who are from minority groups will increase from 15.3% in 1980 to 17.9% in 1990. Glenny (1979, p. 37) stresses, however, that despite the fact that minority populations are increasing their "college going" rate, only 66% of blacks and 55% of hispanics graduate from high school, and are unlikely to make up for other expected enrollment declines.

Funding Plan Impact

Richardson (1982, p. 153) found very few states that "have analyzed the cost of dealing with seriously underprepared or handicapped students." For community colleges, he said the "common approach has been to fund such efforts through the same formula rate as the transfer program." This suggests that those revising formulas may see the impact of this trend in the pressure to create a new program funding category. Likewise, other funding approaches could see pressure for separate program or category funding for remedial and developmental programs (Caruthers and Orwig, 1979, p.31).

EMERGING OCCUPATIONAL TRENDS

Chris Dede (1983, pp. 2, 8) reported that "because of economic change, needs for career mobility, and rapid technology developments affecting job skills, many adults will seek formal occupational retraining." Dede suggests many workers must now retrain three or four times during their careers because of "the swiftness of technological advance." Boyer (1981, p. 5) also points out as a second major occupational trend that in the last five to ten years there has been a significant movement of enrollment toward career-related fields. A recent survey (Group Attitudes, 1983, p. 11), moreover, showed over 70% of a national sample supported this trend.

Funding Plan Impact

Both trends lead to major program cost shifts with some areas growing, and others declining, with a faculty mismatch in some areas. Sophisticated equipment or laboratory needs puts pressure on funding plans to develop methods to provide monies for non-capital, rapidly changing, expensive equipment. In addition, new program start-up costs are needed to react to this issue and funding aimed at skill update.

ECONOMIC FACTORS INFLUENCING FUNDING PLANS

The nation is in a period of recovery from a recession which hit many states hard. Although the economy nationally has recovered fairly well from the recession, Pickens (1984, p. 2) reported that the National Governor's Association concluded in its report, The Fiscal Condition of the States, that "the fiscal condition of the states will improve at a much slower pace" and estimated only "modest growth" in state revenue. M. M. Chambers (1984) was more optimistic, reporting in "Grapevine" that attention focused on educational quality by national reports and the traditional "boom or boomlet" following election should provide more revenue for public higher education. A review of the 1985-86 governors' budget requests of three previously hard-hit midwestern states (i.e. Michigan, Illinois and Ohio) provides some evidence for optimism. These budget requests reveal a reliance on arguments linking higher education funding to economic development and the reindustrialization of the respective state (See also, Pickens, 1981, p.6).

Funding Plan Impact

The economic condition in each state obviously effects the overall revenue available for higher education, with higher education funding traditionally "a highly discretionary item in most state budgets" (SREB, 1978, p. 3). The "economic development" emphasis can be seen in some formulas in the enhancement of certain program funding categories, and in other budget approaches both in special categorical funding or in progam priorities.

POLITICAL ENVIRONMENTAL FACTORS

Robert Peterson (1976, p. 538) reports Lyman Glenny and Heinz Eulau, arguing that "while relatively little direct communication occurs between the public and state politicians concerning higher education, there is good reason to believe that the great increases of state spending on higher education in the sixties are attributable to the 'law of anticipated reactions'." A recent survey (Group Attitudes, 1983) showed a continuing high value placed by the public on higher education. Does this suggest a continuing favorable climate for funding?

The past major funding increases were forthcoming in an era which valued educational access for growing numbers of the legislators' constituents. A second principle sought by legislators was equity in funding among institutions with similar programs.

Folger (1984b, p. 2) suggested that during the last decade the emphasis of values has shifted to "better management of institutions and a variety of specific quality concerns." Caruthers and Orwig (1979, p. 32) suggest that accountability demands have also grown. This accountability is not only over the proper use of funds, but also the educational effectiveness of the funds provided. The late seventies also brought general governmental accountability demands and passage in certain states of tax limitation laws. Andringa (1980, p. 2) reported on a Rand study which found 25 states with "some form of fiscal limitation laws. Of these, 16 instituted their limitations as early as 1975."

Funding Plan Impact

Issues of access remain at the base of funding questions relating to the appropriate level of tuition or the pricing of higher education. In particular, what is the fair share balance between the state and the student or the state and local community college. The accountability trend can be seen both in any move to use formula or funding plans for actual spending controls, and secondly, by attempts to develop qualitative performance funding mechanisms either within formulas or separately.

ALTERNATIVE FORMULA FUNDING APPROACHES

The historical development of approaches to public higher education funding, along with recent trends and pressures, suggest that four critical factors must be addressed in any funding plan. These are 1) enrollment linkage, 2) diversity or mission recognition, 3) equity and "fair share" process, and 4) quality and program improvement capacity. With slightly over 50% of the states using some form of formula funding, a significant question is whether this approach, in particular, can "successfully" handle these issues and the value choices involved within and between these issue areas. Formula funding has been undergoing considerable modification in recent years. What are these trends, and how do they stand up to alternative funding approaches?

Jones (1984a, p. 35) suggests that higher education budgeting can be divided into two components--the multipurpose component and secondly, the single purpose, categorical component. While these can, and are usually combined in a total funding plan, the majority of dollars are provided through the multipurpose component for most of the Educational and General fund serving a number of purposes "at the same time." The difficulty in evaluating various alternative approaches to funding is, therefore, significantly complicated by the fact that most of the critical factors listed above must be simultaneously handled within the context of a single multipurpose component.

ENROLLMENT LINKAGE TO RESOURCE ALLOCATION

Enrollment based formula funding, linking allocations to changes in enrollment, has come under serious question in the era of declining and fluctuating enrollments. Desensitizing the funding plan from adverse linkage with enrollment, is an issue that formula funding plans are addressing by a number of modifications including "decoupling," "buffering" and fixed and marginal cost approaches.

Formula Allocation for Instruction Costs

The enrollment based formula approach calculates allocations by multiplying some work load measure of enrollment, such as head count, or more frequently, full time equivalent student (FTE) or credit hour by a dollar rate "that may be normative (negotiated or politically determined) or analytically derived (a technical judgment based on cost studies)" (Jones, 1984a, pp. 48-49). The most obvious use of this type of formula is to determine the cost of instruction at an institution, the largest single cost item of a college or university. This method directly translates work load measures related to the instruction function (eg. credit hours) into dollars through a mathematical equation such as:

$$\$ = SCH \times \frac{\$}{SCH}$$

A second related approach introduces an additional variable, such as faculty work load to the above formula:

$$\$ = SCH \times \frac{FTE\ FAC}{SCH} \times \frac{\$}{FTE\ FAC}$$

The Use of Enrollment Oriented Factors for Non-instructional Areas

Enrollment based allocation factors can also be used to calculate the costs of other expenditures beyond instruction, using instructional costs as the "base" and the expenditures of other functional areas as fixed percentages of this base (Halstead, 1974, p.666). If six functional costs areas are considered: 1) instructional and academic support, 2) libraries, 3) student services 4) institutional support, 5) research and public service and 6) operations and maintenance, the question is how many of these functions utilize enrollment related workload measures, directly or indirectly, to determine funding for that function. The degree to which a state's overall funding is "enrollment-driven" depends on the answer to this question.

Gross (1982) and McKeown (1982) found variations from the past trend of the "percent of base" approach, have been more numerous, recently, as states begin to "decouple" their funding formula in the other functional areas from enrollment. In fact McKeown's survey found 17 states reporting using separate formulas in each of 5 functional cost areas. The table in Appendix G summarizes different factor usage found in the 1982 Gross study.

By contrast community college formula funding is much less sophisticated. Frequently a single calculation base, enrollment related "unit cost," is used to generate the entire budget allocation. A review of the Wattenbargers' analyses (1983, pp. 10-44; forthcoming, pp. 7-32) found that out of the 37 community college formula states, approximately 12 used different rate calculation for separate cost functions.

Decoupling--Restricting the Impact of Enrollment Changes

Within the formula framework "decoupling" is the term used to describe the use of multiple, non-enrollment based factors for non-instructional functional cost areas. Spence and Weathersby (1981, p. 228; Brinkman, 1984, p.30) suggested that this approach was a growing and desirable trend. Miller (1963, pp. 237-238) suggested that separate functional formula "offer the advantage of greater accuracy growing out of the fact that expenditures for each activity are directly related to the workload factors which most specifically affect them." Libraries or O&M "are not affected in the same way by changes in enrollments...the costs of building maintenance is affected less by changes in number of students than by changes in the number and condition of the buildings themselves." The use of separate functional formulas in the facilities or operations and maintenance area (McClintock, 1980), in particular, seems to be based on extensive research going back to the work of Walter Kraft in the 1950's and W. Badgett in the 1960's. Brinkman (1984, p. 34) found that "decoupling" along with other recent changes had the disadvantage of making formulas much more complex. At a minimum, however, "decoupling" seems to offer a partial answer to the need to desensitize the funding plan from enrollment by restricting the impact of this factor.

Buffering--Loosening the Enrollment Link

"Buffering" offers another approach to desensitizing the link between enrollment and funding. Unlike "decoupling" the objective is not to remove the link for some functional cost area, but rather weaken the link through a variety of means such as creating enrollment "corridors," "enrollment thresholds," or averaging enrollments or cost formula factors over several years (Jones, 1984a, pp. 72-74; Brinkman, 1984, p. 30; Minnesota, 1982, p. 11). Under "corridors," enrollment changes, plus or minus some percent (eg. Tennessee-2%) produces no change in funding. Moreover, any change beyond the established percentage, for example 2%, first has the 2% subtracted from the larger change before the funding is impacted (Pickens, 1980, p. 19) Minnesota and Kentucky average enrollments over a multiyear period before calculating funding.

In periods of decline most "buffering" arrangements have the advantage of "buying time, but does not fundamentally change the concepts on which funding mechanisms are based" (Jones, 1984a, p. 73). The multiyear averaging technique and other "buffering" techniques, do, however, offer relief from short-term fluctuations.

Marginal Cost Techniques

While "decoupling" and "buffering" can be considered indirect methods to modify the adverse impact of an average cost funding formula, the use of marginal costs "employs a fundamentally different set of economic concepts" (Jones, 1984a, p. 76). Funding remains linked to enrollment but by a new methodology, which while "sensitive to enrollment changes...is not as sensitive as linear (average cost) formulas" (Monical and Schoenecker, 1980, p. 79). Spence and Weathersby (1981, p. 230), however, state that marginal costing, while portrayed as an attempt to lessen "strict reliance on student numbers as a funding base, on closer examination...makes the relationship more exact and reflective of actual needs."

As an example, in the California Community College System, funding for additional students is provided at a rate that is two-thirds that of the average revenue per student in the state, "the assumption is that marginal costs are less than average cost by about one-third" (Brinkman, 1984, p. 32). Indiana developed a marginal cost approach that also varied the marginal cost per student based on the level of enrollment change (Seitz, 1981, pp. 41-43).

Jones (1984a, p. 78) found that both technical and political problems stand in the way of states widely adopting marginal costing techniques. He suggests that the statistical methods are complicated and require the grouping together of institutions, because of large data requirements, which may be quite different. The Indiana technique used consensual judgement, rather than statistics with the admission that "there is no conclusive evidence to support these specific factors" (Allen and Topping, 1979, p. 34). Monical and Schoennecker (1980, p. 79) found that while "most will agree that there are marginal costs associated with the provision of higher educational services, at the present, there is little empirical data about what they actually are."

Fixed and Variable Costs

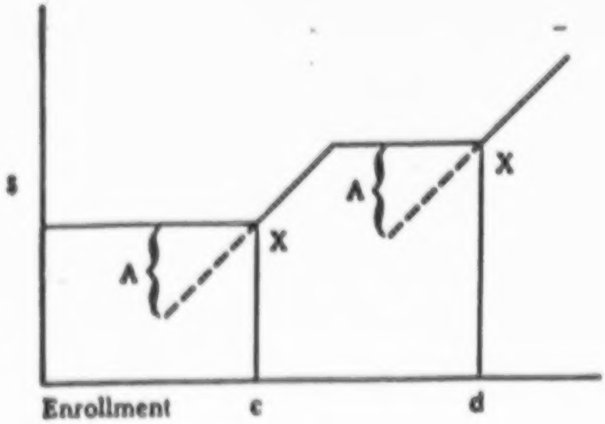
O'Connor (1983, pp. 3-4) distinguishes fixed-variable costing as a special type of marginal costing. She suggests that the fixed-variable cost method separates fixed costs from costs that vary with enrollment, i.e. variable costs. "Marginal costs" under this approach are equal to average variable cost.

Jones (1984a ,p. 80) states that, unlike the other approaches to desensitizing funding from enrollment, this approach explicitly "recognizes the necessity of developing and maintaining a core institutional capacity." That is, the state has a basic responsibility to maintain its investment at some threshold level beyond immediate consideration of issues of access and annual enrollment. Jones stresses that the concept follows from several propositions:

> First there are certain institutional capacities that must be put in place, if one is to have an institution. Among these capacities are a critical mass of faculty, an administrative core and a certain minimum complement of academic and student support functions.

Second, this core component can differ depending on the mission of the institution. A broader institutional mission requires a larger core capacity.

The diagram below indicates several key concepts. The areas marked "A" are fixed costs "necessary to maintain investment in the institution over and above what would be calculated on a purely enrollment-driven basis...when enrollment declines into the region designated 'd' administrators and legislators will have to decide whether to change an institution's scale or mission,..(at)..'c'..they must address the continued survival of the institution."



Fixed and Variable Costs

While Jones includes mission decisions as part of a determination of fixed versus variable costs, (i.e. point "d" and "c" on the diagram), a number of other authors (Joyner, 1981; Temple and Riggs, 1978) suggest that mission segmentation can be more appropriately achieved through non-formula approaches, such as program budgeting concepts. This mission and diversity issue is addressed in the next section of this paper. Conceptually fixed and variable costs are sound concepts, however, the problems, similar to straight marginal cost techniques, are 1) determining what is fixed and what is variable and 2) the degree of complexity added to the funding plan. Many authors have concluded that ultimately the definition is political (Brinkman, 1984, p. 33; Jones, 1984a, p. 82; O'Connor, 1983, p. 4). McKeown (1984, p. 283) notes that "of twenty-nine states examined, thirteen utilized fixed cost components," but the definitions and areas of use were different.

MISSION RECOGNITION AND DIFFERENTIATION

Funding formulas have often been criticized for having a "leveling" effect on institutions (Gross, 1973, p. 99) and a corresponding lack of recognition of differences in mission. Stated in its simplest terms, the criticism states that under formula funding the averaging of statewide program costs "produce program costs expenditures that apply to all institutions, but actual expenditures may vary" some lower and some higher (Moss and Gaither, 1976, p. 555). According to Brinkman (1984, p. 27) "if treated alike for a long enough period, diverse institutions will become similar...and unfortunately (underlining added) the process will be a leveling down rather than a leveling up."

Two elements are generally considered critical to overcome "leveling" through a system of differential funding. First, the funded units included in the formula should be "cost based" and secondly, programs and service levels are identified into separate categories. Costs are usually determined through technical studies, but, at times, especially at the community college level the differentiation by costs is a normative decision. Differentiated funding contrasts with single unit rate funding.

At the four year level differentiated formula funding is the norm and well established with long term conceptual grounding (Holmer and Bloomfield, 1976; Cope, 1968, for example). McKeown (1982, p. 287) found all formula states differentiating instructional costs by some factor such as discipline, levels of enrollment and/or type of institution. At the community college level, however, differentiation is the exception. Analyses of Wattenbarger (1983, pp. 10-44; forthcoming, pp.7-32) and Stumph, 1984, pp.5-10) allow identification of approximately 18 of 37 formula states using differentiated as opposed to flat-rate grants.

Perhaps the capacity of formula to reflect differentiation among institutions can best be seen in the new Kentucky formula aimed at "mission funding" (SREB, 1978; Brinkman, 1984). As part of its instructional formula, rates for faculty compensation are developed by reference to out-of-state "benchmark" institutions. There are four groups of "benchmark" institutiions, paralleling the four basic mission categories in which each institution has been classified.

Kentucky along with Texas also have introduced a "complexity" differential, based on factors indicating the degree of research orientation in the institution. McLaughlin, et. al.,(1980, pp. 64-65) demonstrated that such complexity was a legitimate and necessary consideration in funding. Warren et. al (1976, p.64) found differential was especially critical for "high equipment centered" occupational curricula.

Augenblick (1984, p. 3) in an analysis of differential cost funding for California Community Colleges found:

> within the instructional area, differential funding becomes most complex, when it attempts to distinguish among costs associated with each individual course. Such a system must be supported by an extremely detailed cost accounting system that is complicated to construct and may be burdensome in its data requirements. Differential funding is most appropriate in states with large populations and complex educational delivery system; in such states differential funding can be used to assure that each sector of the education system is adequately funded.

William Hyde (1981, p. 14) reported that South Carolina at the four year level uses "well over 100 different instructional rates" and Breneman and Nelson (1981) reported on the past 31 cost category Florida formula at the community college level. Garms, as well as Breneman and Nelson argue that the number of categories for differential support rates, at least at the community college level, should be kept relatively low, somewhere in the range of 5 to 10 (Garms, 1977, p. 9; Breneman and Nelson, (1981, pp. 205-206). They suggest both difficulty of classification and the increased cost of accurate and regular cost studies with too many categories. While a larger number of categories to adequately recognize institutional mission may be necessary at the four year level, certain states have added complexity to the formula that may make its general understandability difficult for the legislature and interested public.

EQUITY AND "FAIR SHARE" PROCESS

Equity and a "fair share" process has a variety of meanings when applied to public higher education funding plans. The focus is first on the total dollars allocated and whether the amount is a "fair share" 1) among institutions, or 2) an between the student and the state, or 3) between the local community college district's state versus local cost share. Secondly, the funding process itself is reviewed as a facilitator or hinderance to a reasonable "fair" dialogue and communication mechanism between institutions and funders.

Institutional Equity

A definition of equity or fairness in the distribution of state government appropriations for higher education is to provide the same funds to each institution for each FTE enrolled in a comparable program of instruction. Formulas assist institutional fair share equity by calculating budget requests of institutions according to the same set of procedures. They provide an objective basis for determining institutional "fair share" (Meisinger, 1976, p. 9).

But as Miller, (1963) states the "use of objective procedures employing objective (quantitative) data does not alter the fact that value decisions are made" or that formulas are "a combination of technical judgments and political agreements" (Meisinger, 1976, p. 2). As Jones suggests, despite the evenhanded appearance "the hidden assumption, of course, is that the values and policies implicit in the process are themselves equitable." "What is included among the policy judgements to be manifested in a formula is itself a matter of policy" (Brinkman, 1984, p. 23). "Equity" is an open question requiring political agreement along with cost analysis. Participants in the formula design process, thus, need to look closely at the value assumptions behind the formula equations.

Tuition "Fair Share" Contribution

The appropriate division of cost between the student and state is a very broad topic beyond the scope of this analysis. The "public benefit" derived from subsidizing the student's share is ultimately "in the eyes of the beholder...the evaluation is political" (Breneman, 1981, p. 47). However, the use of formulas by state funding agencies to formalize mathematically, the student's "fair share" contribution to overall institutional educational cost does have a significant impact on institutional funding. Viehland, et. al.,(1981, pp. 23-33) found 17 states have established policies that index tuition to a specific measure. They stated that "expressing tuition as a share of educational costs creates a tighter link between tuition and overall state support." The policy is likely to be legislatively determined and the tuition received viewed as state income, rather than local institutional income. The concepts involved in the use of a formula to determine tuition are similar to those used in formula budgeting, and most states that index tuition to educational costs also use formula budgeting. A key factor in consideration of the appropriateness of tuition indexing by formula funding designers will be the value placed on state regulation versus the open market by that state.

State versus Local "Fair Shares"

Breneman (1981, pp. 39-54) suggests the use of economic analysis in the calculation of "public benefit" and the state versus local nature of that "public benefit" to determine "fair share" division and the equitable local share of financing community colleges. Breneman examines community college functions, particularly academic transfer, remedial, vocational-technical and community service by dividing these activities into three categories: 1) investment in general human capital; 2) investments in specific human capital; and 3) activities that predominantly generate consumption with little or no investment value. For example, with regard to community service courses, Breneman suggests that their value is that of consumption rather than long term investment with a high potential for predominantly private rather than public benefit. "User charges (tuition) is the efficient way to finance activities that possess only private benefits." For some community services that the local community can also be the beneficiary, the local college district should subsidize rather than the state. In this category Breneman places such courses as child care, nutrition or community development.

Breneman placed both academic transfer and remedial programs in the category of investment in general human capital. The public benefit in the case of remedial courses he suggests is exceptionally strong and should be funded at full cost by state government as an investment in "reduced income-transfer expenses" in the future. In the case of academic transfer programs, Breneman suggested that the private benefit justified tuition, but that the statewide benefit was substantially greater than the local public benefit.

Breneman considers vocational-technical programs as investment in specific human capital "with clear private benefit qualifying for tuition (pp. 50-51). To the extent that a particular employer will benefit and this can be identified directly, the policy argues that the employer should take on some of the tuition responsibility. Moreover, while society as a whole benefits from the increased productivity of the labor force, the benefits are more concentrated in the community.

> because of the naturally stronger link between the vocational course offerings and the local labor market. This suggests that the local district should give more support to occupational programs than academic transfer offerings, compared to the states's larger support of the latter type.

Breneman justifies higher state subsidy if concerted state efforts for economic development exists. Brenemen's vocational-technical division does appear open to criticism particularly to the extent that the real labor market of a community college graduate is larger than the local district, as in the case of a suburban district in a larger SMSA.

The total Breneman analysis provides community college funding plan analysts with substantial food for thought. A strong case is made not to treat each funding category equally, (eg. 1/3 cost share) or simply on a "residual" cost basis (eg. State share = Total cost - avr. local revenue and student tuition).

Equity of Local Tax Resources

Breneman (1981) and Garms (1981) have both looked at the equity issue in terms of differences in property wealth among community college districts giving rise to inequities in resources per student. One approach advocated by a number of authors (see Wattenbarger and Starnes (1976) is "full" state funding). For states that have a local component, however, Breneman and Garms recommend inclusion of equalization concepts in the funding plan.

Most equalization concepts have been borrowed directly from the elementary and secondary school level which in Garms' (1981, pp. 6-7) findings, is not totally appropriate. Borrowing from the elementary and secondary level, the community college equalization plans attempt to equalize tax revenue available per FTE, as the Elem/Sec equalizes tax revenue per student. One significant conceptual problem with this approach is that while "all elementary-secondary schools have great similarity in curricular offerings, community colleges differ widely." That is, there are differences by district in student programs needs with different costs. Garms suggests the concept of a cost sensitive weighted FTE:

> Florida, for example, classifies community college programs into 31 cost categories with weights (as compared to the cost of some program whose cost is arbitrarily defined as 1.0) ranging from less than 1.0 to more than 2.5. The number of FTE students in each cost category is then multiplied by the weight for that category and the result is a number of weighted FTE in the college...with the number of weighted FTE becoming the divisor in calculating revenue or expenditures per student.

The Garms' concept of a weighted FTE provides a clear and helpful standard for states wishing to develop a equalization element in their funding plan. Rather than simply borrowing a procedure that is not entirely transferable from the Elem/Sec level, the concept has been reconceptualized to reflect the realities of higher education financing.

QUALITY AND PROGRAM IMPROVEMENT

Leslie (1983, p. 187) surveyed the fifty states and found that 13 states at the four year level were specifically "changing their financing structures to promote quality." This number may seem small, but it represents a significant change from the past. In most states "quality of performance or outcomes of the educational process were not recognized in the multipurpose 'base' budget criteria" (Folger, 1984a, p. 2; Jones, 1984b, p. 21). The exclusion of performance criteria, Folger, suggests, is "not a matter of simple oversight." Most states have left quality maintenance as the responsibility of individual institutions. "The state provided funds and some broad determination of roles and missions, but left standards, teaching methods to the colleges" (Folger, 1984a, p. 3).

If states begin to include quality or performance criteria in the budget process, they must become involved in the definition of effectiveness and in the measurement of performance and the establishment of quality or performance objectives. If on the other hand, the states leave the allocation of funds to improve quality to the institutions, the institution's decisions can have a major effect on the possibility of achieving some state objective. "Therefore, there is an ongoing tension between state and institutional objectives and the conflict will increase when funds are short and difficult choices have to be made" (Folger, 1984b, p. 3).

Jones, (1984b, p. 26) recommends that a special purpose, rather than multipurpose budget component should be utilized for states seeking means to include quality factors into its funding formula. One example, the Tennessee project, has received perhaps, the greatest publicity permitting up to an additional 2% of the budget allocation of each institution to be based on performance and quality indicators including 1) academic programs accredited, 2) graduate performance by Majors, 3) by general education outcomes, 4) public evaluation and 5) peer evaluation (Pickens, 1983, pp. 193-202).

Ohio, on the other hand has recently developed through its multipurpose component, a supplemental quality improvement program, **Academic Challenge**, providing, automatically, 1% additional to the operating subsidy of an institution to be used by the institution in any area they designate for improvement. Programs designated for increased funding would then continue to be funded for six years at the higher level through the state's regular multipurpose component (Coulter, 1985, p. 3).

The 5 formula base factors in Tennessee were performance, while Ohio's were related to enrollment, however, in both cases the total percent of budget is relatively small and most analysts presume that formula funding modifications for quality or program improvement will be a small element of a formula. Since the approach does, however, help overcome several significant criticisms of formula funding (i.e. the leveling and anti-innovation critcisms) the additions of quality oriented formula funding factors should be viewed as a useful correction, and worthy of inclusion in new or modified formulas.

ALTERNATIVES TO FORMULA BUDGETING

Two competing philosophical approaches offer alternatives to formula budgeting--incrementalism and alternative "rational school" models. With formula budgeting falling into the "rational calculation" approach, itself, the alternatives include allocation models built on 1) goals and rational deductive reasoning including PPBS, MBO and and strategic budget planning, 2) marginal utility analysis including performance budgeting and ZBB, and 3) non-formula cost reimbursement including "performance indicator" budgeting (Morgan, 1984, p. 7). Almost by definition all the non-formula approaches have considerable enrollment "decoupling" or desensitizing built into their processes, but have varying advantages and disadvantages relating to the issues of mission recognition, equity and quality.

INCREMENTALISM

In incremental budgeting the underlying premise is that last year's allocation, the "base", was adequate and appropriate. The major share of the allocation (often 90% or more) is not reexamined and attention is restricted to the size of the "increment" or sometimes, the "decrement." Moreover, the base, (in its pure form) "is expressed in financial terms, not in work load (eg. enrollment) or program terms" (Jones, 1984b, p. 22). In its purest form increments or decrements are calculated as uniform percentage adjustments. Allen (1980, p. 26) found 13 states using incremental budgeting.

Jones (1984a, p .55) states that it is wrong, however, to suggest that formula budgeting and incrementalism have no common ground. There rarely are "pure" cases and both approaches, he insists, utilize the same factors--the number of students, the price of resources and levels of activity in the budget discussion process. In fact the same point is true for many of the alternative rational calculation approaches and formula funding, i.e. the factors discussed are frequently the same, with enrollment being at least one element (qualitative or outcome oriented performance budget is a possible exception).

Incremental budgeting also seems to take a variety of forms that bring it closer to program budgeting and element of marginal costing. Gross (1979, p. 31) suggests that the Illinois four-year level incremental budgeting approach "appears to incorporate positive aspects of formula budgeting while minimizing the formula pitfalls

> adjusting expenditures by marginal costs and tuition revenue based on enrollments and then adding increases for salaries, utilities, library cost, new building, building maintenance and program support. The program feature enables institutions 1) to adjust for shift in curricular demands, 2) repond to social and economic needs, 3) improve the quality of instructional and 4) enhance faculty development.

While incremental budgeting offers the advantage of flexibility in factor usage in comparison to formula funding, this flexibility can also mean that the ground rules are not as explicit for anything other than a straight percentage increment (or decrement) approach. In formulas a heavy dose of politics is confined to the design stage (Jones, 1984a, p. 56), while with incrementalism the process is open to log-rolling and interest group politics throughout more of the stages (Morgan, 1984, p. 12). For the most part, the principle of "fair share" (Wildavsky, 1975) operates, however, based on the belief that the distribution will differ slightly from last year. Jones (1984a, p. 29) declared that a strong state regulated system was likely to utilize incremental budgeting on a line-item basis and impose spending controls on institutions. While spending controls are also possible with formulas they are less probable.

PERFORMANCE INDICATORS, "NEEDS" MODELS AND ALLOCATION FORMULAS

Meisinger (1976, pp. 218-219) suggested there was a strong possibility that many formula states would convert to a less rigid "indicator approach" where cost ratios are used to examine budget request, but are guidelines,"...useful benchmarks for comparisons during the budget request review stage...with other factors in addition to these indicators used to contruct and weigh budget requests...such as quality."

Meisinger said the advantages of less rigidity by indicators could, however, be overcome by formulas which can be used more flexibly or negotiable rate schedules and more flexibly determined data bases. In tight revenue conditions he stated "the state does not want to be obligated to fund what a rigid formula might generate, which might exceed the available resources." That is, rigid, "resource needs" modeling formulas are often not seen by state agency personnnel as a beneficial approach, while formulas that could be used to "fairly" distribute or allocate limited resources were seen as useful approaches. This vital distinction between use of formulas for "needs" models versus as an allocation device is frequently not made.

NON-FORMULA APPROACHES TO QUALITY FUNDING

The Tennessee "performance budgeting" approach, which was outlined earlier, can best be considered a special purpose funding formula, although it is frequently discussed as an example of performance budgeting. Clearly it is an attempt to use performance measures within a formula. The immediate examples below are outside the formula approach. The first examples below are non-formula applications to the multi-purpose component, the second set of examples are special purpose, non-formula applications.

Performance Budgeting--Multi-purpose Component

Peterson (1977) outlined a non-formula use of "performance budgeting" in Hawaii and Washington for their multi-purpose budgetary components. The study found, however, that the institutions resisted this type of performance-oriented approach and the legislatures, either resisted or ignored the budget developed in this format, "assailing" its complexity and volume. The study (p. 31) further found that the budgetary approach "did not change the legislative arguments since credible analysis, comparing performances, while controlling for dollars available," were lacking. "Legislators with a 'poor' performance institution argued they need more (dollars), while those with a 'high' (rating) argued it deserved more."

Both states experienced difficulties in providing "adequate analytic support" and with data adequacy and availability. Summarizing not only the case studies but also the state of the art in performance budgeting, the study (p. 6) stated "attempts to develop outcome- and impact- oriented efficiency and effectiveness indices, and sophisticated performance measures that relate inputs, outputs and standards of judgment are at best embryonic." Morgan (1978, p. 7) said most existing performance measures fall into the category of "surrogate" quality measures upon which if undue reliance were placed, "very substantial educational policy questions" will be ignored, and "unintended incentives established."

Performance Budgeting--Special Purpose Component

Two non-formula "performance budgeting" approaches, however, have demonstrated good potential pay off. The first is the competitive grant approach, frequently modeling state special purpose funding along federal FIPSE lines. This type of funding encourages institutional innovation through a one to three year grant which institutions must pick up in their "base" after the funding period. The second funding approach is similar, but non-competitive, and provides incentives to focus efforts on state high-priority activities. "Some states require institutions to match state resources with funds that the institution reallocates from lower-priority programs (Folger, 1984a, p. 10).

PROGRAM BUDGETING

"Program budgeting" used generically, relates to a number of "rational school" approaches to budgeting including PPBS, ZBB, the application of MBO to budgeting, or strategic planning resource allocation and certain forms of performance budgeting. "By design these methods are integrated into the planning process, (and) call for continual reassessment of the need for discrete programmatic activity, and lead to efforts to measure each program's performance" (Caruthers and Orwig, 1979, p. 57).

PPBS (Planning, Programming and Budgeting Systems) and ZBB (Zero-Based Budgeting)

Commenting on "pure form" budget reforms such as PPBS and ZBB, Folger (1984b, p. 4) said they did not fit the realities of state-institutional decision-making. They assumed that a college or university has clear goals or concepts of quality and agreed upon processes and technology for achieving the goals (See Appendix H for detailed PPBS and ZBB outlines). Alternatively, viewing the university as an "organized anarchy" as understood by Cohen and March (1974), Folger claims that the general multipurpose budget component can be linked with goals as visualized by PPBS and ZBB only with great difficulty, if at all (See also, Boyd,1982). Temple and Riggs (1978, pp. 355-357) attacked ZBB as "requiring rejustification of exisiting personnel and expenditure structure without an effective analysis of discrete program needs." They and others (Fincher, 1978, p. 277) cite the difficulty of colleges reallocating resources quickly and easily as ZBB envisioned because of institutional fixed costs. "The inflexibility that college management faces renders its adoption and strict implementation difficult."

Reformed Program Budgeting

Temple and Riggs (1978) along with others (Freeman, 1978, pp. 37-43) have suggested that "program budgeting" without the paperwork burdens of PBBS and ZBB, has merit. Bowen (1975, p.5) attempted to name this approach as "imperative planning" which "describes whatever procedures are used when higher education settles down to realistic and serious integration of program planning and budgeting." Further refinements of this approach come from the "strategic planning" school which emphasizes "goal formulation and uses environmental and resource analysis as a planning and control approach" (Kotler and Murphy, 1981, pp. 477-478; Orwig, 1980, pp. 16-18). The particular strength cited for these approaches focuses on the "mission recognition" role that this allocation approach can play effectively, as long as significant state agency involvement is assumed. Temple and Riggs state:

> We contend that a program budgeting system developed with careful commitment to clearly defined institutional role and scope statements would serve effectively...We need for state agencies responsible for funding public higher education to define with the full involvement of each institution a discrete role and scope statement...The state then would commit to funding an array of programs at a particular institution on a long range basis. This strategy would remove the erratic and linear impact of enrollment changes and provide for differential funding of programs based on unique needs of various colleges.

Spence (1981, p. 7) suggests that the "funding of distinct needs implies changes in the state/higher education financing relationship...More justification may be required...the state's interest may require more detailed monitoring of individual institutional financial connditions as a state tries to insure the most effective use of its resources."

The main strength of modified "program budgeting" may be its ability to "target" dollars along defined mission lines, while the disadvantage may well be the required level of state-level involvement to carry this objective.

Structured Incentives

The structured incentive or "memorandum of understanding" approach is best characterized by the State of Colorado (Van de Water, 1984, pp. 4-11) which replaced a very rigid state controlled system. "A key element is that the scope of the state's financial responsibility is limited to the extent of state appropriations, not the entire budget, and the institutional actions do not affect the extent of commitment except in specific cases set forth in the memorandum of understanding" (Curry, 1982, p. 17). If an institution chooses to implement a new program, the funding must come from its own resources and not from supplemental state funds. Jones (1984c, pp. 5-6) suggests that the difference in this funding approach is more philosophical than it is a process difference. "Whereas most formulas (as well as other funding approaches) attempt to provide institutions with sufficient funds to meet expected cost, the Colorado arrangement can be interpreted as being much closer to a pricing mechanism." While the initial funding was based on cost established in 1981, recent funding is "arrived at through what can more nearly be described as price negotiations."

Curry (1982, p.20) states that the key "budgeting decision points are enrollment and the amount of inflation adjustment." The format of the underlying calculations resemble what Wattenbarger and Starnes, (1976, pp. 17-19) describe as a common community college funding approach--a negotiated FTE X $/FTE rate. Thus, while this approach may be quite unique at the four year level, there is some evidence, that at least, in those states with partial local, community college financing and with decentralized tuition setting authority, the structured incentive approach may be in place on a "de facto" basis.

FRAMEWORK FOR ANALYSIS

In 1940 V.O. Key asked the basic budget design question "on what basis shall it be decided to allocate X dollars to activity A instead of activity B?" The question makes it clear that budgeting is a "decision" making system involving a process with the output of a resource allocation choice. But, what budgeting system is best for higher education? The answer is, "it depends." This section does not attempt to answer that question, but does provide a framework that would be useful to guide a state in determining its funding approach to higher education.

The framework outlined on the next page starts with the basic assumption that a higher education budget process operates as an open system which requires attention not only to the specific resource allocation procedures, but also the context in which they are expected to operate. The framework in skeletal form suggests that the interaction of five factors should be considered in the decision to select a budget system: 1) environmental trends, 2) ability in handling four critical issues, 3) the allocation methodology, 4) the state-institutional relationship (governance system) and 5) both substantive and procedural outputs.

ELEMENTS OF THE FRAMEWORK

ENVIRONMENTAL TRENDS: Five external trends should be reviewed for their impact on higher education funding: A) Enrollment, B) Socio-demographic, C) Occupational, D) Economic, E) Political.

CRITICAL ISSUES: Four critical issues need to be addressed by any higher education funding plan. It must be recognized that value choices and priority setting involving values are involved in and between these issues. In question form these are:

1) What will be the nature of the link to enrollment?
2) What will be the method chosen to assure mission and diversity recognition?
3) How will equity and "fair share" concerns be addressed including a) equitable funding among institutions, b) between the student and the state, c) between the state and a locally funded community college?
4) How will quality and program improvement concerns be handled?

ALLOCATION METHODOLOGY: Utilizing the classification predominantly drawn from Morgan (1984, p. 6, see next page) approaches are divided into two major schools, the rational calculation approach and secondly the market/political interaction model. The rational calculation approach includes the 1) rational-deductive goal models (PPBS, MBO, strategic planning), 2) marginal utility investment models (cost/benfit analysis, ZBB and qualitative performance budgeting), 3) cost reimbursement (performance indicator budgeting, and formula budgeting). The market/political interaction approach includes 1) incrementalism and 2) structured incentives.

STATE-INSTITUTIONAL RELATIONS: Based on Curry (1982) state governance systems have been divided into four models: 1) state-agency, 2) state controlled, 3) state-aided, 4) "free market". (See next page for detailed breakdown.) The models are represented on a continuum between greater institutional autonomy ("free market") and greater state control (state agency). A state's governance system provides a contextual environment in which the allocation system operates. Certain types of allocation approaches are more or less likely within each of these models.

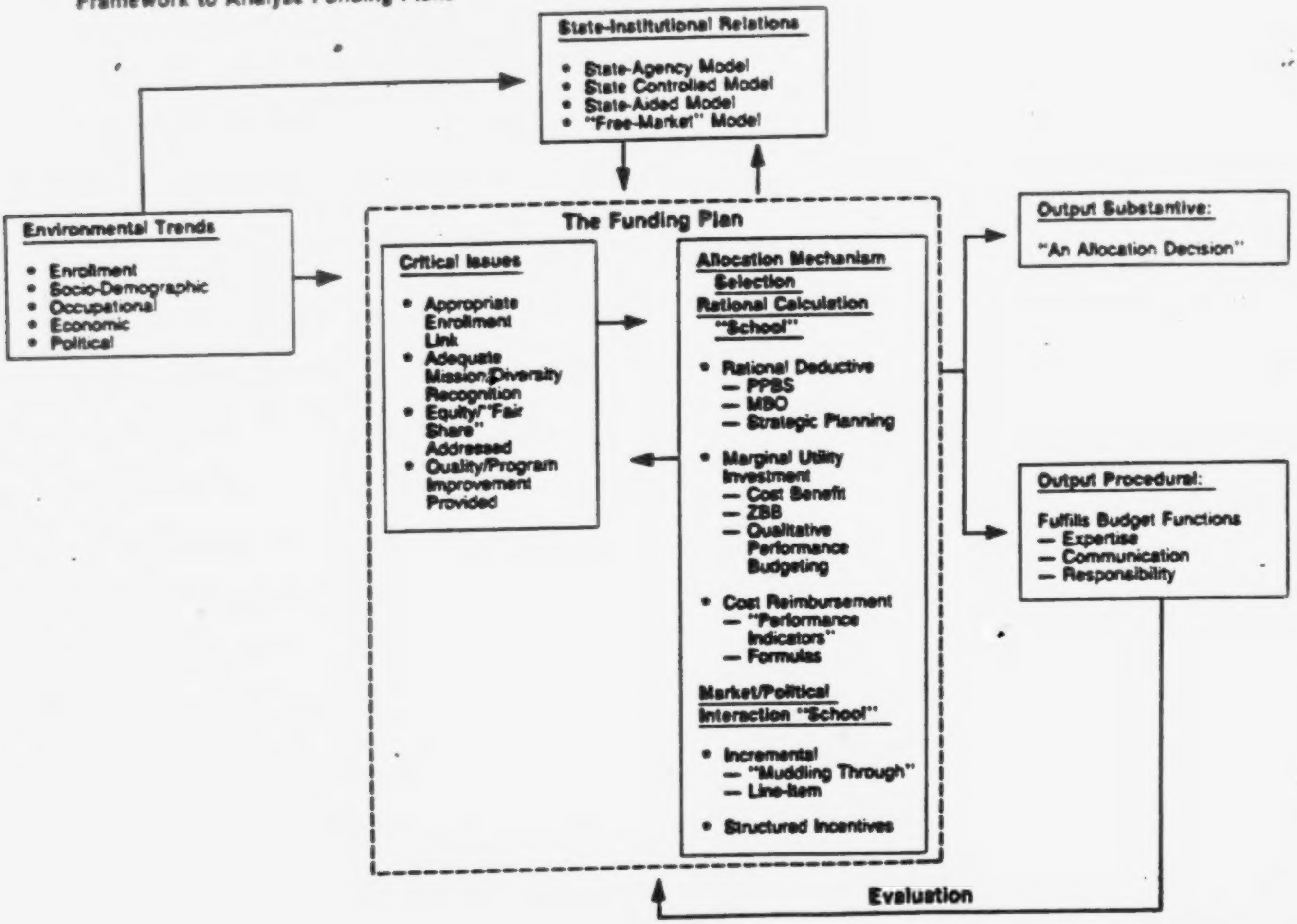
PROCEDURAL/SUBSTANTIVE OUTPUT: In addition to the substantive output of a resource allocation decision, a budget system is presumed to attempt to fulfill three functions that of: 1) expertise, 2) communications and 3) responsibility (Miller, 1963, pp. 68-91). These outputs are procedural requirements of any budget and provide a feedback loop to evaluate the specific allocation approach selected. The effectiveness that an allocation approach performs these three functions become critical evaluation factors to assist in the selection of a budget system. The question becomes to what extent the selected approach fulfills these three functions, given all other factors in the framework.

The critical elements of each function and key questions are as follows:

1) Expertise function--It consists of "measurement and comparison of the consequences of alternative future expenditures...made in quantitative terms insofar as possible. It is the collection, analysis and expert evaluation of information. Its aims is to make the value choices (of the alternatives) clearer.
2) Communications function--It consists of both "ascertaining views of affected interests and communicating those views to key decision makers, particularly the Governor, legislature and higher education agency."
3) Responsibility function--It consists of making the value choices within context of a clear understanding of the fact situation and value choices. To what extent are the value questions sufficiently highlighted?

A three function procedural output analysis of any funding approach should attempt to determine to what degree each function is advanced or hindered. Formulas that successfully perform the expertise function, for example, may poorly perform on the communication or responsibility function. In fact one of the major tradeoffs faced by many formula modifications is between increased expertise or technical correctness in certain complicated formulas and the ability to communicate the allocation decisions involved . On the other hand some formulas do an outstanding job at both the expertise and communication function, but are inadequate on assisting the execution of the responsibility function, since many of the values involved in the formula are implicit rather than explicit. Balance between the three functions is obviously sought and tradeoffs exist for virtually all funding plans.

Framework to Analyze Funding Plans


State-Institutional Relations
• State-Agency Model
• State Controlled Model
• State-Aided Model
• "Free-Market" Model
Environmental Trends
• Enrollment
• Socio-Demographic
• Occupational
• Economic
• Political
The Funding Plan
Critical Issues
• Appropriate Enrollment Link
• Adequate Mission/Diversity Recognition
• Equity/"Fair Share" Addressed
• Quality/Program Improvement Provided
Allocation Mechanism Selection
Rational Calculation "School"
• Rational Deductive
— PPBS
— MBO
— Strategic Planning
• Marginal Utility Investment
— Cost Benefit
— ZBB
— Qualitative Performance Budgeting
• Cost Reimbursement
— "Performance Indicators"
— Formulas
Market/Political Interaction "School"
• Incremental
— "Muddling Through"
— Line-Item
• Structured Incentives
Output Substantive:
"An Allocation Decision"
Output Procedural:
Fulfills Budget Functions
— Expertise
— Communication
— Responsibility
Evaluation

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APPENDIX A

BUDGET FORMULA USE BY STATES

State	1951a	1963a	1967a	1973a	1977b	1980c	1982d	1985
Alabama			X	X	X	X	X	X
Alaska					X		X	
Arkansas				X	X	X	X	X
Arizona								X
California	X	X	X					X
Colorado				X		X	X	X
Connecticut			X					X
Florida		X	X	X	X	X	X	
Georgia				X	X	X	X	X
Hawaii								X
Illinois			X					X
Iowa								X
Indiana	X		X					X
Kansas						X	X	X
Kentucky		X	X			X	X	
Louisiana			X	X	X	X	X	X
Maryland				X			X	X
Massachusetts								X
Michigan								X
Minnesota			X	X			X	X
Mississippi			X	X	X	X	X	X
Missouri				X	X	X	X	X
Montana						X		X
Nebraska								X
Nevada				X	X		X	X
New Jersey				X	X	X	X	X
New Mexico			X		X		X	X
New York				X	X		X	X
North Carolina								X
North Dakota			X	X	X		X	X
Ohio				X	X	X	X	X
Oklahoma	X	X	X	X		X	X	X
Oregon			X				X	X
Pennsylvania				X		X	X	X
South Carolina				X	X	X	X	X
South Dakota				X	X		X	
Tennessee		X	X	X	X	X	X	X
Texas	X	X	X	X	X	X	X	X
Virginia				X	X		X	X
Washington				X	X	X	X	X
West Virginia				X	X		X	
Wisconsin				X	X		X	X
TOTALS	4	6	16	25	22	19	30	3

a Gross 1973
b Kentucky 1977
c Gross 1982
d McKeown 1982
e Wattenbarger 1985 (forthcoming) (Community Colleges)

Table A-2. Changes in sources of current income of all public institutions of higher education for educational and general purposes, 1929-30 to 1976-77

Source	*1929-30*	*1939-40*	*1959-60*	*1969-70*	*1976-77*
Total (in $ millions)	$205.7	$271.0	$2,485.1	$10,750.0	$22,879.5
Percentage	100.0%	100.0%	100.0%	100.0%	100.0%
All public sources	79.8	75.3	82.4	81.0	79.7
Federal government		13.5	22.0	19.7	15.7
State governments	79.8	53.0	54.5	54.5	57.4
Local governments		8.9	5.9	6.8	6.6
All private sources	20.2	24.7	17.6	19.0	20.3
Tuition and fees[a]	15.8	20.3	13.4	15.3	16.9
Endowment income	3.1	2.5	0.8	0.4	0.4
Private gifts and grants	1.3	1.9	3.4	3.3	3.0

[a] Gross tuition, including student aid income.

Sources: 1929-30 to 1959-60 from O'Neill (1973, table A-2); 1969-70 from Carnegie Commission on Higher Education (1973, table A-13); 1976-77 from Carnegie Council estimates based on data in U.S. National Center for Education Statistics (1979, table 1).

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Table 5

Percent of 1984 Operating Funds by Source

Source: 1985--Wattenbarger and Mercer (forthcoming)

State	State %	Local %	Student Fees %	Federal %	Other %
Alabama	60.0	0.5	21.0	19.0	0.5
Alaska	74.9	2.13	11.1	3.0	6.4
Arizona*	22.0	47.0	9.0	0	22.0
Arkansas	73.0	0	22.9	1.0	3.1
California*	66.0	28.0	0	6.0	0
Colorado	67.0	0	33.0	0	0
Connecticut	75.0	0	15.0	9.0	1.0
Delaware	79.0	0	8.0	13.0	0
Florida	69.0	0	24.0	4.0	3.0
Georgia	77.0	0	22.0	0	1.0
Illinois	34.5	35.7	25.5	.2	4.1
Indiana	56.9	0	42.5	.6	0
Iowa	50.5	10.79	27.63	7.0	4.74
Kansas	25.0	49.0	13.0	1.0	12.0
Kentucky	63.0	0.5	20.0	6.9	9.6
Louisiana	72.9	0	26.8	.3	0
Maryland	34.0	33.0	31.0	0	2.0
Massachusetts**	N/A				
Michigan	36.9	25.5	32.4	0	5.2
Minnesota	66.0	0	33.0	1.0	
Mississippi	56.0	14.0	19.0	9.0	2.0
Missouri	42.9	25.5	24.9	1.4	5.1
Montana	52.4	34.5	8.2	0	4.6
Nebraska	39.8	41.9	14.8	1.4	2.0
Nevada	17.7	0	23.3	0	0
New Mexico	75.4	76.5	16.1	1.6	.4
New Jersey	26.6	33.9	34.0	.2	5.3
New York	31.6	21.9	31.4	1.9	13.2
North Carolina	77.1	11.6	6.8	4.3	0
Ohio	47.0	13.0	34.0	.2	4.0
Oklahoma	79.7	0	12.4	0	7.9
Oregon	27.6	38.7	18.3	0	4.4
Pennsylvania	33.3	33.3	33.3	0	0
Rhode Island	74.0	0	-23	0	0
South Carolina	50.9	8.45	19.1	18.6	2.5

Table 5 (cont'd).

State	State %	Local %	Student Fees %	Federal %	Other %
Tennessee**	69.0	0	23.9	0	7.1
Texas	61.7	0	0	0	38.3
Virginia	70.9	0	25.1	2.6	1.4
Washington	95.0	5.0	0	0	0
West Virginia	67.0	0	20.0	3.0	10.0
Wyoming	63.0	28.0	9.0	0	0

*Data reported are 1982-83 revenues by source.
**Data not reported by state in percentage by source format.
**Data are projected 1984-85 figures. "Other" includes some federal dollars.

APPENDIX D

How the States Rank on 7 Scales

Chronicle of Higher Education
Oct. 31, 1984

	1984-85 appropriations (a)		Appropriations per capita (b)		Approp. per $1,000 of personal income (c)		2-year change (d)		10-year change (e)		2-year change less inflation (f)		10-year change less inflation (g)	
	Amount	Rank	Amount	Rank	Amount	Rank	Per cent	Rank	Per cent	Rank	Per cent	Rank	Per cent	Rank
Alabama	$ 802,309,000	19	$127.75	22	$13.73	9	+23%	6	+184%	13	+15%	6	+ 34%	13
Alaska	186,904,000	39	386.02	1	20.26	1	+14%	26	+363%	1	+ 6%	26	+119%	1
Arizona	377,180,000	27	128.50	21	11.94	17	+29%	2	+147%	26	+21%	2	+ 17%	28
Arkansas	249,023,000	33	107.43	35	11.93	18	+26%	4	+202%	8	+18%	4	+ 43%	8
California	3,809,748,000	1	153.08	7	11.42	24	+16%	19	+179%	14	+ 8%	19	+ 32%	14
Colorado	383,718,000	26	123.90	25	9.57	34	+10%	43	+130%	31	+ 3%	43	+ 9%	31
Connecticut	302,931,000	31	97.00	41	8.48	48	+20%	10	+124%	34	+12%	10	+ 6%	34
Delaware	84,940,000	45	141.33	11	11.07	25	+10%	41	+128%	32	+ 3%	41	+ 8%	32
Florida	1,026,655,000	5	97.02	40	8.29	41	+13%	28	+148%	24	+ 6%	28	+ 18%	24
Georgia	611,877,000	14	108.09	34	10.28	29	+17%	16	+158%	20	+10%	16	+ 22%	20
Hawaii	187,618,000	38	193.82	3	15.14	7	+ 1%	48	+180%	18	− 6%	48	+ 29%	18
Idaho	110,123,000	40	112.03	29	11.65	21	+17%	14	+119%	39	+10%	14	+ 4%	39
Illinois	1,181,687,000	4	103.20	37	8.29	40	+14%	25	+ 88%	47	+ 6%	25	− 10%	47
Indiana	545,892,000	18	99.74	39	9.51	35	+17%	18	+121%	38	+ 9%	18	+ 4%	38
Iowa	392,477,000	25	135.20	14	12.62	14	+ 7%	46	+136%	29	0%	46	+ 12%	29
Kansas	341,746,000	29	142.57	10	11.51	22	+11%	39	+170%	17	+ 4%	39	+ 28%	17
Kentucky	407,904,000	23	110.87	32	11.69	20	+11%	38	+141%	28	+ 4%	38	+ 14%	28
Louisiana	556,787,000	17	126.11	24	12.19	16	+11%	40	+200%	10	+ 4%	40	+ 42%	10
Maine	81,585,000	46	71.83	49	7.23	46	+11%	37	+ 86%	48	+ 4%	37	− 12%	48
Maryland	483,423,000	20	113.84	26	8.64	37	+12%	36	+131%	30	+ 5%	36	+ 9%	30
Massachusetts	641,364,000	11	111.80	30	8.38	39	+36%	1	+208%	7	+27%	1	+ 45%	7
Michigan	1,006,862,000	6	111.05	31	9.67	33	+16%	20	+ 92%	45	+ 9%	20	− 9%	45
Minnesota	626,879,000	12	151.31	9	12.70	13	+12%	35	+155%	21	+ 5%	35	+ 21%	21
Mississippi	326,406,000	30	127.25	23	15.58	5	+10%	42	+150%	22	+ 3%	42	+ 18%	22
Missouri	401,822,000	24	81.13	46	7.37	44	+12%	34	+103%	43	+ 5%	34	− 4%	43
Montana	107,382,000	42	132.22	18	13.22	11	+13%	31	+202%	9	+ 6%	31	+ 43%	9
Nebraska	213,216,000	37	134.52	15	11.91	19	+12%	32	+150%	23	+ 5%	32	+ 18%	23
Nevada	77,508,000	47	86.18	43	6.90	47	+ 8%	45	+161%	19	+ 1%	45	+ 23%	19
New Hampshire	42,630,000	49	44.89	50	3.70	50	+21%	8	+123%	36	+13%	8	+ 6%	36
New Jersey	586,061,000	15	78.73	48	5.56	49	+18%	12	+102%	44	+10%	12	− 4%	44
New Mexico	220,855,000	35	159.81	6	16.37	3	+20%	9	+280%	4	+12%	9	+ 70%	4
New York	2,358,410,000	3	133.58	16	10.27	30	+17%	15	+103%	42	+10%	15	− 4%	42
North Carolina	960,343,000	8	160.70	5	16.13	4	+21%	7	+175%	15	+13%	7	+ 30%	15
North Dakota	108,725,000	41	182.52	4	13.70	10	0%	49	+243%	6	− 6%	49	+ 62%	6
Ohio	954,860,000	9	88.86	42	7.92	43	+13%	30	+147%	25	+ 6%	30	+ 17%	25
Oklahoma	367,617,000	28	112.63	27	10.17	31	− 4%	50	+247%	5	−10%	50	+ 64%	5
Oregon	281,483,000	32	105.82	36	9.86	32	+17%	17	+117%	40	+ 9%	17	+ 2%	40
Pennsylvania	985,049,000	7	82.90	45	7.23	45	+13%	29	+ 72%	50	+ 6%	29	− 19%	50
Rhode Island	105,279,000	43	110.82	33	9.44	36	+16%	22	+124%	35	+ 8%	22	+ 6%	35
South Carolina	451,041,000	22	140.99	12	15.04	8	+25%	5	+122%	37	+17%	5	+ 5%	37
South Dakota	58,247,000	48	84.05	44	8.46	38	+ 9%	44	+ 81%	49	+ 2%	44	− 15%	49
Tennessee	475,290,000	21	101.92	38	10.62	27	+27%	3	+173%	16	+19%	3	+ 29%	16
Texas	2,364,774,000	2	151.81	8	12.87	12	+16%	21	+343%	2	+ 9%	21	+110%	2
Utah	226,207,000	34	140.33	13	15.54	6	+18%	13	+199%	11	+10%	13	+ 41%	11
Vermont	41,740,000	50	78.51	47	7.96	42	+13%	27	+107%	41	+ 6%	27	− 2%	41
Virginia	707,867,000	10	131.40	19	10.53	28	+20%	11	+192%	12	+12%	11	+ 36%	12
Washington	566,476,000	16	133.54	17	10.82	26	+14%	24	+125%	33	+ 6%	24	+ 6%	33
West Virginia	220,069,000	36	112.05	28	12.23	15	+14%	23	+147%	27	+ 7%	23	+ 17%	27
Wisconsin	617,958,000	13	130.10	20	11.46	23	+12%	33	+ 90%	46	+ 5%	33	− 10%	46
Wyoming	100,780,000	44	197.61	2	18.45	2	+ 4%	47	+315%	3	− 3%	47	+ 96%	3
Total U.S.	$28,003,827,000		$120.88		$10.28		+16%		+146%		+ 8%		+ 17%	

ote Percentages shown are rounded. Rankings are based on unrounded figures.

(a) Reported by M. M. Chambers of Illinois State University as state tax funds appropriated for operating expenses and scholarship programs for higher education. Amount of appropriations may be reduced later in some states because of shortfall in revenues. Not included are appropriations for capital outlay or money from sources other than state taxes, such as student fees. Included are appropriations for annual operating expenses even if appropriated to some other agency of the state for ultimate allocation to institutions of higher education. Also included are state tax funds appropriated for scholarships and statewide governing or coordinating boards.

(b) State appropriations divided by the U. S. Census Bureau's civilian population estimates for 1983.

(c) State appropriations divided by personal income, in thousands of dollars, reported by the U. S. Commerce Department for 1983.

(d) Increase in appropriations for 1984-85 over 1982-83, as reported by M.M. Chambers.

(e) Increase in appropriations for 1984-85 over 1974-75, as reported by M.M. Chambers.

(f) Two-year increase in appropriations adjusted for inflation of 6.9 per cent, as indicated by the Labor Department's Consumer Price Indexes for June, 1984, and June, 1982.

(g) Ten-year increase in appropriations adjusted for inflation of 111.5 per cent, as indicated by the Labor Department's Consumer Price Indexes for June, 1984, and June, 1974.

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How the States Rank on 7 Scales

	1983-84 appropriations (a)		Appropriations per capita (b)		Approp. per $1,000 of personal income (c)		2-year change (d)		10-year change (e)		2-year change less inflation (f)		10-year change less inflation (g)	
	Amount	Rank	Amount	Rank	Amount	Rank	Per cent	Rank	Per cent	Rank	Per cent	Rank	Per cent	Rank
Alabama	$ 410,038,000	20	$100.91	37	$11.67	16	+ 9%	35	+147%	32	- 1%	35	+ 10%	32
Alaska	150,752,000	39	340.30	1	20.86	1	+27%	3	+546%	1	+12%	3	+186%	1
Arizona	336,080,000	28	116.25	23	11.09	20	+10%	30	+147%	31	0%	30	+ 10%	31
Arkansas	197,321,000	35	85.64	40	9.87	28	+ 7%	41	+188%	20	- 3%	41	+ 19%	20
California	3,150,378,000	1	128.19	13	8.83	35	- 5%	49	+172%	19	-14%	49	+ 21%	19
Colorado	366,747,000	26	119.06	22	9.90	27	+20%	8	+181%	23	+ 9%	8	+ 16%	23
Connecticut	273,706,000	31	87.17	38	8.15	46	+19%	9	+128%	37	+ 8%	10	+ 1%	37
Delaware	77,782,000	46	129.85	11	10.84	24	+ 6%	40	+132%	36	- 3%	40	+ 3%	36
Florida	864,254,000	8	91.66	37	8.06	39	+19%	10	+176%	18	+ 9%	11	+ 23%	18
Georgia	570,170,000	13	101.06	30	10.16	26	+14%	21	+181%	24	+ 4%	22	+ 16%	24
Hawaii	181,580,000	38	181.92	3	15.17	5	+17%	13	+217%	7	+ 7%	14	+ 41%	7
Idaho	101,007,000	42	103.60	28	10.94	22	+ 6%	43	+148%	30	- 3%	43	+ 10%	30
Illinois	1,108,007,000	4	96.58	35	7.73	41	+ 6%	38	+101%	48	- 3%	39	- 11%	48
Indiana	503,484,000	16	91.76	36	8.89	34	+ 4%	46	+116%	42	- 5%	46	- 4%	42
Iowa	372,128,000	25	127.75	14	11.89	14	+16%	18	+156%	25	+ 5%	17	+ 14%	25
Kansas	308,473,000	30	128.88	15	10.88	23	+10%	31	+181%	17	0%	32	+ 25%	17
Kentucky	400,529,000	21	108.60	26	11.97	13	+18%	12	+206%	10	+ 7%	13	+ 38%	10
Louisiana	503,086,000	17	115.04	24	10.26	25	+11%	20	+217%	8	+ 7%	20	+ 41%	8
Maine	76,853,000	45	67.46	49	8.29	45	+18%	18	+ 92%	48	+ 4%	18	- 19%	48
Maryland	437,028,000	19	102.37	29	8.14	37	+13%	28	+153%	20	+ 3%	27	- 12%	29
Massachusetts	451,423,000	18	78.47	43	5.38	48	+24%	2	+156%	28	+13%	2	+ 13%	28
Michigan	887,471,000	7	97.36	34	8.54	36	+ 6%	44	+ 91%	50	- 5%	45	-19%	50
Minnesota	612,209,000	11	147.77	6	13.07	10	+12%	28	+165%	22	+ 3%	28	+ 16%	22
Mississippi	346,370,000	28	134.94	9	16.80	2	+18%	17	+208%	9	+ 6%	18	+ 38%	9
Missouri	363,688,000	27	73.40	47	6.86	44	+12%	27	+101%	46	+10%	5	- 11%	46
Montana	103,617,000	41	128.88	12	12.73	12	+24%	1	+182%	16	+13%	1	+ 25%	16
Nebraska	193,925,000	36	121.81	20	11.35	18	+ 7%	42	+168%	14	- 3%	42	+ 27%	14
Nevada	75,380,000	47	88.93	39	7.02	43	+14%	19	+163%	15	+ 4%	20	+ 26%	15
New Hampshire	41,141,000	49	43.36	50	2.93	50	+ 5%	45	+138%	34	- 5%	44	+ 5%	34
New Jersey	531,881,000	15	71.77	48	5.31	49	+14%	20	+108%	44	+ 4%	21	- 6%	44
New Mexico	187,800,000	37	137.33	8	14.83	6	+ 9%	34	+242%	6	0%	34	+ 52%	6
New York	2,166,808,000	3	123.74	18	8.66	30	+17%	15	+120%	40	+ 6%	16	- 2%	40
North Carolina	864,858,000	9	143.73	7	16.23	4	+14%	22	+201%	11	+ 4%	23	+ 34%	11
North Dakota	108,725,000	40	161.86	4	14.12	7	0%	48	+243%	5	- 9%	48	+ 52%	5
Ohio	883,761,000	6	81.91	42	7.41	42	+20%	6	+158%	27	+ 9%	9	+ 13%	27
Oklahoma	369,167,000	23	121.16	21	11.22	19	+20%	7	+306%	4	+ 9%	8	+ 80%	4
Oregon	272,989,000	32	102.12	31	9.61	31	+ 6%	38	+121%	39	- 2%	38	- 2%	37
Pennsylvania	902,253,000	6	75.91	46	5.83	47	+10%	32	+110%	43	0%	31	- 7%	43
Rhode Island	97,851,000	44	102.36	30	9.16	32	+17%	14	+130%	38	+ 6%	15	+ 2%	38
South Carolina	382,471,000	22	122.15	19	13.82	9	+ 9%	36	+168%	21	- 1%	36	+ 18%	21
South Dakota	53,070,000	48	78.14	45	7.81	40	- 7%	50	+ 97%	47	-15%	50	- 13%	47
Tennessee	367,738,000	24	83.33	41	8.14	33	+ 9%	37	+157%	28	- 1%	37	+ 14%	28
Texas	2,282,342,000	2	149.38	5	12.84	11	+20%	6	+356%	2	+ 9%	7	+100%	2
Utah	188,080,000	34	126.72	16	14.10	8	+14%	24	+198%	13	+ 4%	25	+ 33%	13
Vermont	40,343,000	50	77.88	44	7.82	39	+16%	11	+118%	41	+ 6%	12	- 3%	41
Virginia	617,283,000	10	112.88	25	9.84	29	+13%	28	+159%	12	+ 3%	28	+ 27%	12
Washington	546,477,000	14	132.26	10	11.01	21	+14%	23	+139%	38	+ 4%	24	+ 6%	36
West Virginia	199,319,000	33	101.85	32	11.41	17	+ 4%	47	+144%	33	- 5%	47	+ 6%	33
Wisconsin	595,843,000	12	125.23	17	11.89	15	+12%	29	+ 96%	46	+ 2%	30	- 13%	46
Wyoming	100,780,000	43	198.39	2	16.84	3	+22%	4	+328%	3	+11%	4	+ 90%	3
Total U.S.	$25,390,899,000		$115.38		$10.48		+12%		+173%		+ 2%		+ 31%	

(a) Reported by M. M. Chambers of Illinois State University as state tax funds appropriated for operating expenses and scholarship programs for higher education. Amount of appropriations may be reduced later in some states because of shortfall in revenues. Not included are appropriations for capital outlay or money from sources other than state taxes. Included are appropriations for annual operating expenses even if appropriated to some other agency of the state for ultimate allocation to institutions of higher education. Proceeds of state taxes whose proceeds are dedicated to any institution of higher education are included. Also included are state tax funds appropriated for scholarships and statewide governing or coordinating boards.

(b) State appropriations divided by the Census Bureau's population estimates for 1982.

(c) State appropriations divided by personal income, in thousands of dollars, reported by the Commerce Department for 1982.

(d) Increase in appropriations for 1983-84 over 1981-82, as reported by M. M. Chambers.

(e) Increase in appropriations for 1983-84 over 1973-74, as reported by M. M. Chambers.

(f) Two-year increase in appropriations adjusted for inflation of 9.8 per cent, as indicated by the Labor Department's Consumer Price Indexes for June, 1983, and June, 1981.

(g) Ten-year increase in appropriations adjusted for inflation of [illegible] per cent, as indicated by the Labor Department's Consumer Price Indexes for June, 1983, and June, 1973.

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How the States Support Colle

Here are estimates of their comparative efforts, based on the latest available figures

	1974-75 [illegible] Amount	Rank	[illegible] Amount	Rank	[illegible] Amount	Rank	[illegible] Amount	Rank	[illegible] Pct.	Rank	[illegible] Pct.	Rank	[illegible] Pct.	Rank	[illegible] Pct.
Alabama	$ 189,110	23	$2,086*	26	$ 44.66	36	$11.84	19	+30%	11	+459%	15	+19%	11	+192
Alaska	26,073	44	8,862	1	109.21	1	30.42	1	+84%	2	+577%	6	+49%	2	+282
Arizona	152,949	25	2,229	33	74.12	8	19.60	5	+38%	16	+413%	16	+16%	14	+169
Arkansas	82,421	35	2,431	18	40.46	46	10.24	31	+46%	8	+395%	20	+23%	9	+127
California	1,368,051	1	2,304	20	66.30	9	12.01	18	+30%	16	+389%	23	+16%	14	+118
Colorado	167,194	24	2,024	36	68.99	6	12.64	11	+42%	5	+366%	21	+22%	8	+182
Connecticut	135,247	28	2,648	12	43.57	39	7.40	48	+19%	41	+595%	4	+ 3%	41	+286
Delaware	37,306	42	2,378	21	64.59	12	11.18	22	+44%	6	+440%	13	+23%	6	+213
Florida	412,599	7	2,886*	7	52.70	25	10.91	26	+30%	13	+445%	11	+17%	12	+226
Georgia	237,416	14	2,861	6	49.61	30	11.29	21	+33%	20	+488%	10	+14%	19	+219
Hawaii	58,740	38	2,020	37	70.60	4	12.74	13	− 9%	50	+267%	39	−22%	50	+162
Idaho	50,228	39	2,631	13	68.24	11	14.78	8	+27%	12	+248%	35	+17%	12	+192
Illinois	612,543	3	2,914	8	54.52	21	9.46	37	+19%	43	+311%	28	+ 1%	42	+132
Indiana	247,119	12	2,499	15	46.49	35	9.22	40	+17%	44	+209%	44	+ 6%	44	+ 73
Iowa	147,788	27	2,407*	20	50.89	33	9.62	36	+16%	47	+205%	45	+ 1%	42	+ 72
Kansas	126,902	31	1,873*	44	55.51	18	10.47	29	+20%	32	+187%	46	+10%	14	+ 61
Kentucky	160,604	23	2,676	11	50.75	26	12.89	14	+22%	24	+298%	31	+ 4%	33	+122
Louisiana	166,531	19	2,119	24	49.29	32	12.84	15	+25%	30	+189%	48	+ 8%	30	+ 80
Maine	48,705	41	2,484	17	44.46	38	10.89	28	+36%	15	+271%	30	+16%	14	+104
Maryland	181,704	20	2,233*	28	44.64	37	8.13	46	+14%	46	+264%	33	− 3%	46	+161
Massachusetts†	199,761	16	2,179	31	34.33	49	6.84	49	+29%	27	+609%	3	+11%	25	+295
Michigan	524,177	4	2,420*	16	57.56	16	10.64	32	+25%	31	+390%	24	+ 7%	31	+113
Minnesota	194,311	15	2,163*	32	49.86	33	9.71	35	+12%	48	+253%	39	− 9%	48	+ 98
Mississippi	120,729	29	2,270	34	57.31	17	16.12	7	+35%	16	+404%	18	+19%	18	+183
Missouri	197,911	17	2,307	29	41.60	42	8.59	43	+27%	23	+322%	26	+ 9%	26	+110
Montana	33,249	42	1,684	40	52.06	24	11.20	20	+24%	30	+188%	47	+ 6%	30	+ 61
Nebraska	88,400	34	2,252	32	58.36	20	10.51	27	+50%	4	+384%	38	+29%	3	+185
Nevada	29,720	47	2,244	35	64.23	22	9.44	38	+46%	6	+366%	26	+23%	6	+186
New Hampshire	16,380	50	1,162	50	33.34	50	4.95	50	+36%	20	+350%	28	+14%	19	+107
New Jersey	300,512	11	2,734*	16	39.33	47	6.73	48	+27%	34	+832%	7	+ 9%	25	+286
New Mexico	61,382	37	1,967	38	59.50	19	14.60	10	+29%	22	+329%	48	+ 3%	39	+ 89
New York	1,109,880	2	2,815*	2	62.80	14	11.13	23	+41%	9	+467%	17	+21%	8	+166
North Carolina	337,044	9	3,025	4	63.72	13	14.93	7	+51%	3	+595%	6	+29%	3	+288
North Dakota	31,730	46	1,380	48	49.86	31	8.71	42	+13%	45	+167%	49	− 3%	45	+ 47
Ohio	396,017	8	1,919*	41	35.97	48	7.09	47	+27%	28	+470%	9	− 8%	29	+220
Oklahoma	108,970	30	1,475	48	39.79	46	9.17	41	+20%	35	+216%	43	+11%	25	+ 78
Oregon	129,809	30	1,913	42	58.30	15	12.65	17	+21%	38	+222%	41	+ 4%	36	+ 82
Pennsylvania†	485,242	6	2,770*	8	40.77	44	8.17	44	+22%	36	+606%	2	+ 8%	32	+296
Rhode Island	47,836	48	2,752	9	48.34	23	9.59	33	+33%	29	+357%	23	+16%	19	+157
South Carolina	180,550	21	2,409	5	68.24	9	17.05	2	+73%	1	+886%	1	+47%	1	+420
South Dakota	32,221	45	1,958	42	47.64	34	9.80	34	+42%	8	+161%	50	+21%	9	+ 47
Tennessee	160,823	22	2,161	33	41.16	43	10.96	30	+38%	23	+432%	14	+13%	22	+159
Texas	600,180	5	1,766*	45	48.17	41	9.44	38	+19%	40	+346%	27	− 6%	48	+191
Utah	73,740	36	1,990	48	65.46	10	16.05	4	+37%	33	+289%	32	+13%	22	+122
Vermont	20,135	49	1,700	47	48.30	40	16.70	38	+30%	30	+300%	25	+ 3%	39	+108
Virginia	242,359	13	2,417*	19	55.38	27	10.21	30	+31%	21	+471%	8	+12%	23	+271
Washington	222,343	15	2,016	35	67.76	7	12.18	12	+22%	34	+222%	42	+ 4%	36	+ 81
West Virginia	89,034	33	2,231	37	49.62	29	12.83	16	+16%	46	+275%	29	− 2%	46	+111
Wisconsin†	337,321	19	2,842*	14	71.64	3	15.08	6	+27%	38	+442%	12	+ 9%	28	+204
Wyoming	24,306	48	2,306	22	68.35	6	14.97	9	+33%	20	+362%	27	+13%	22	+105
Total U.S.	$10,866,160		$2,373		$52.35		$10.36		+29%		+340%		+10%		+152

* [illegible] per cent [illegible] private institutions or students attending private institutions.

† [illegible]

[illegible] by M. M. Chambers of Illinois State University.

[illegible] students in public institutions in fall, 1973, reported by U.S. Office of Education.

[illegible] July, 1973, population, reported by U.S. Bureau of the Census.

[illegible]

1973, reported by U.S. Department of Commerce.

[illegible] for 1974-75 over those for 1972-73 [illegible]

[illegible] by M. M. Chambers figures, [illegible] American Council on Education [illegible] 17 per cent and a 10-year rate [illegible]

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NATIONAL ASSOCIATION OF STATE UNIVERSITIES AND LAND-GRANT COLLEGES

APPROPRIATIONS OF STATE TAX FUNDS FOR OPERATING EXPENSES OF HIGHER EDUCATION IN THOUSANDS OF DOLLARS, FOR FISCAL YEARS 1963-64, 1971-72 and 1973-74, WITH PERCENTAGE GAINS OVER MOST RECENT TWO AND TEN YEARS

STATES (1)	Year 1963-64 (2)	Year 1971-72 (3)	Year 1973-74 (4)	2-yr gain % (5)	10-yr gain % (6)	STATES (7)	
Alabama	$29,133	$106,807	$147,526	38 1/2%	406%	Alabama	19
Alaska	4,817	19,500	23,399	20	385 3/4	Alaska	21
Arizona	25,683	97,314	135,998	39 1/2	429 1/2	Arizona	15
Arkansas	20,369	52,177	73,411	40 1/2	260 1/2	Arkansas	36
California	301,304	853,623	1,141,554	33 3/4	278 3/4	California	29
Colorado	35,279	113,463	134,044	18	280	Colorado	28
Connecticut	18,585	111,695	119,918	7 1/4	545 1/4	Connecticut	3
Delaware	5,831	23,091	33,573	45	476	Delaware	9
Florida	68,143	247,540	346,056	40	408	Florida	18
Georgia	35,270	162,953	218,660	34 1/4	520	Georgia	6
Hawaii	10,867	59,866	57,295	[illegible]	427 1/4	Hawaii	16
Idaho	11,203	34,167	40,566	18 3/4	262	Idaho	34
Illinois	148,170	475,179	550,904	16	272	Illinois	33
Indiana	70,866	201,345	233,379	16	229 1/4	Indiana	42
Iowa	48,275	119,881	142,389	19	195	Iowa	45
Kansas	38,390	84,313	108,927	29 1/4	183 3/4	Kansas	48
Kentucky	32,164	120,489	148,214	23	360 3/4	Kentucky	22
Louisiana	55,847	139,916	158,855	13 1/2	184 1/2	Louisiana	47
Maine	9,099	30,741	40,153	30 1/2	341	Maine	23
Maryland	34,812	141,913	172,826	21 3/4	396 1/2	Maryland	20
Massachusetts	19,874	130,212	176,707*	36	789	Massachusetts	1
Michigan	115,604	379,409	464,029	22	301	Michigan	27
Minnesota	49,710	164,566	187,552	14	277 1/4	Minnesota	30
Mississippi	19,873	84,112	112,868	34 1/4	468	Mississippi	12
Missouri	44,526	149,109	180,719	21 1/4	306 3/4	Missouri	26
Montana	12,177	30,635	36,792	20	202	Montana	44
Nebraska	18,820	51,915	68,000	31	261	Nebraska	35
Nevada	6,042	18,642	26,632	42 3/4	340 3/4	Nevada	24
New Hampshire	5,146	12,419	17,403	39 3/4	237 1/2	New Hampshire	40
New Jersey	40,020	184,679	257,708	39 1/2	544	New Jersey	4
New Mexico	15,963	45,307	54,902	21 1/4	244	New Mexico	38
New York	182,918	803,913	983,941	22 1/2	438	New York	13
North Carolina	46,768	223,486	287,115	28 1/2	514	North Carolina	7
North Dakota	12,079	26,998	31,730	17 1/2	162 1/2	North Dakota	49
Ohio	60,670	285,677	345,759	21	470	Ohio	11
Oklahoma	33,505	79,331	96,038	21	187	Oklahoma	46
Oregon	39,923	103,000	123,476	20	209 1/4	Oregon	43
Pennsylvania	66,064	347,483	420,867**	21	537	Pennsylvania	5
Rhode Island	7,963	30,443	42,439	39 1/2	433	Rhode Island	14
South Carolina	17,360	84,278	143,402	70 1/4	726	South Carolina	2
South Dakota	10,133	21,844	25,977	19	156 1/4	South Dakota	50
Tennessee	28,324	114,034	147,253	29	419 3/4	Tennessee	17
Texas	114,924	418,369	487,874	16 1/2	324 1/2	Texas	25
Utah	19,154	50,422	66,373	31 1/2	246 1/2	Utah	37
Vermont	4,986	15,856	18,453	16 1/4	270	Vermont	32
Virginia	35,858	153,433	206,458	34 1/2	475 3/4	Virginia	10
Washington	69,913	109,467	232,343	22	232 1/4	Washington	41
West Virginia	21,875	69,388	81,796	18	274	West Virginia	31
Wisconsin	51,490	226,403	304,346	34 1/2	491 1/2	Wisconsin	8
Wyoming	6,707	18,316	22,758	24 1/4	239 1/4	Wyoming	39
TOTALS	2,182,473	7,710,319	9,657,997				
WEIGHTED AVERAGE PERCENTAGES OF GAIN				25	342 1/2		

* Massachusetts may be understated; supplementary sums may come later in the session.

** The total for Pennsylvania is an estimate, in advance of actual appropriations.

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APPENDIX E

TABLE 1. 1983 Status of State Boards of Higher Education

Consolidated Governing Boards 23 - states Gross - 5 Formula states McKeown - 10 Wattenbarger - 12		Coordinating Boards Gross - 19 - Formula states McKeown - [illegible] Formula states Wattenbarger - 25 Formula states						Planning Agencies
		With Program Approval Authority			With Program Review and Recommendation Authority Only			
Board for All Public Institutions	Board for All Senior Institutions – Separate Agency for Community Colleges	Consolidated or Aggregated Budget	Budget Review and Recommendation	No Statutory Budget Role	Consolidated or Aggregated Budget	Budget Review and Recommendation	No Statutory Budget Role or Program Approval	
M G Georgia Hawaii Idaho[1] Massachusetts G Montana[1] M Nevada M North Dakota Rhode Island Utah M West Virginia M Wisconsin M Alaska Maine New Hampshire M South Dakota	Arizona Iowa M G Kansas M G Mississippi North Carolina M G Florida[1] [Oregon[1]] Wyoming	Connecticut Illinois M G New Jersey M G Ohio M G Oklahoma M G South Carolina M Maryland	M G Colorado Indiana M G Kentucky M G Louisiana M G Missouri M New Mexico M G Tennessee M G Texas M G Pennsylvania[1] M Virginia *	M New York[1]	M G Alabama M G Arkansas	[Alaska] M [Oregon] California M Minnesota * M G Washington Michigan[1] [Florida[1]*]	[New Hampshire] Nebraska [Maine] [South Dakota[1]]	Delaware Vermont

Key [ ] Separate statutory coordinating agency
1 States with agency responsible for all levels of education
* No program review authority

Source: Education Commission of the States, 1983.

Code M = McKeown (1982
G = Gross (1982)
Underlines = Wattenbarger (1985) - Community Colleges only

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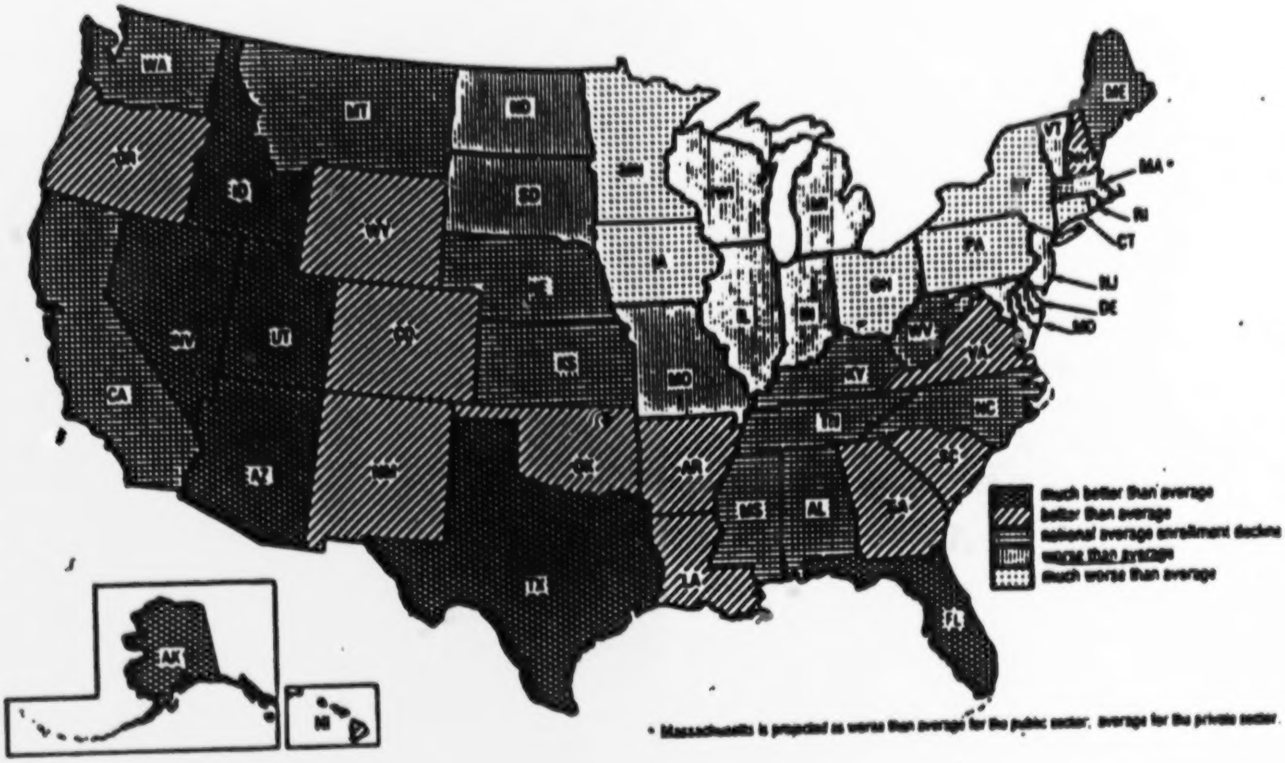
Figure 13. Carnegie Council Projected Enrollment Trends in the 1990s Relative to the National Average


WA
MT
ND
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OR
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PA
NE
NV
UT
CO
IL
IN
OH
WV
KS
MO
KY
VA
CA
TN
NC
OK
AR
SC
AZ
NM
MS
AL
GA
TX
LA
FL
AK
HI
much better than average
better than average
national average enrollment decline
worse than average
much worse than average

* Massachusetts is projected as worse than average for the public sector; average for the private sector.

Source: Carnegie Council estimates.

TABLE 2

FORMULA CALCULATION OF FUNCTIONAL AREA BY STATES

State	Instruction and Academic Support	Libraries	Student Services	Institutional Support	Research and Public Service	Physical Plant Operation
Alabama	Total Budget	Total Budget	Total Budget	Total Budget	Total Budget	All except Utilities
Arkansas	Academic Salaries Other Salaries Operating Budget	Total Budget		Total Budget		Total Budget
Colorado	Academic Salaries	Salaries Collections				All except Utilities
Florida	Academic Salaries Advising Salaries Administration Salaries Supporting Salaries Operating Budget	Collections			Research Salaries Public Service Salaries	
Georgia	Academic Salaries Supporting Salaries Operating Budget	Total Budget			Public Service Budget Only	Total Budget
Kansas	Instructional Budget Academic Support Budget	Total Budget	Total Budget	Total Budget	Research Budget	Maintenance Security Administration
Kentucky	Academic Salaries Academic Support Budget	Total Budget	Total Budget	Total Budget	Research Budget	Maintenance and Custodial
Louisiana	Total Budget					
Mississippi	Total Budget	Total Budget	Total Budget	Total Budget	Research Budget	Total Budget

TABLE 2 (Continued)

State	Instruction and Academic Support	Libraries	Student Services	Institutional Support	Research and Public Service	Physical Plant Operation
Missouri	Total Budget	Total Budget		Total Budget		All except Utilities
Montana	Academic Salaries Operating Budget Equipment Academic Support	Total Budget	Total Budget	Total Budget	Public Service Budget	
New Jersey	Academic Salaries Academic Administration Operating Budget			Total Budget		Custodial Maintenance Grounds Administration Security
Ohio	Total Budget		Total Budget	Total Budget		Total Budget
Oklahoma	Total Budget	Total Budget	Total Budget	Total Budget	Research Budget Public Service Budget	Total Budget
Pennsylvania	Instructional Budget Academic Support Budget		Total Budget	Total Budget		Total Budget
South Carolina	Academic Salaries Operating Budget Academic Support Budget	Total Budget	Total Budget	Total Budget	Research Budget	Administration Maintenance Custodial Grounds
Tennessee	Instruction Budget Academic Support	Total Budget	Total Budget	Total Budget	Research Budget	All except Utilities

Table 2 (Continued)

State	Instruction and Academic Support	Libraries	Student Services	Institutional Support	Research and Public Service	Physical Plant Operation
Texas	Academic Salaries Academic Administration Operating Budget	Total Budget	Total Budget	Total Budget	Research Budget	Administration Maintenance Custodial Grounds
Washington	Academic Salaries Operating Budget	Salaries Operating Budget Collections	Total Budget			Maintenance Custodial Salaries Custodial Supplies Grounds

PPBS TERMINOLOGY

PPBS in contrast to current practices is an attempt to provide a rational framework which relates planning, managerial control, and operational control to the budgeting and information system. Before describing the PPBS process, there are some basic elements which need to be defined:

1. Objectives — these are the decisions regarding the goals, directions, product (or services) lines and the like which guide the organization and are long range in nat long range in nature.

2. Programs — these are "the package which encompasses each and every one of the agency's efforts to achieve a particular objective or set of objectives."

3. Program alternatives — for every objective or set of them there should be several alternative ways for fulfilling that objective.

4. Output -- this is the result of a program's activities and it is "inseparably linked to objectives and program."

5. Progress measurement — this should be concerned with determining if the output is being achieved as planned and efficiently.

6. Input — this is the "manpower, facilities, equipment, and materials applied to a program and expressed in units or dollars."

7. Alternative ways to perform a job — within a program, this refers to methods of handling input to achieve desired output.

8. Systems analysis — this refers to a broad variety of financial and "benefit-cost" analytical techniques which can be applied to program input and output analysis of PPBS.

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Exhibit 1-1

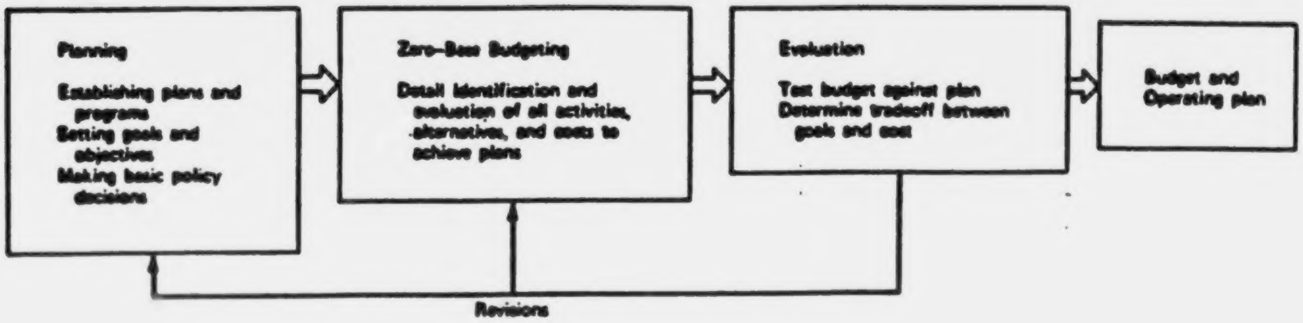
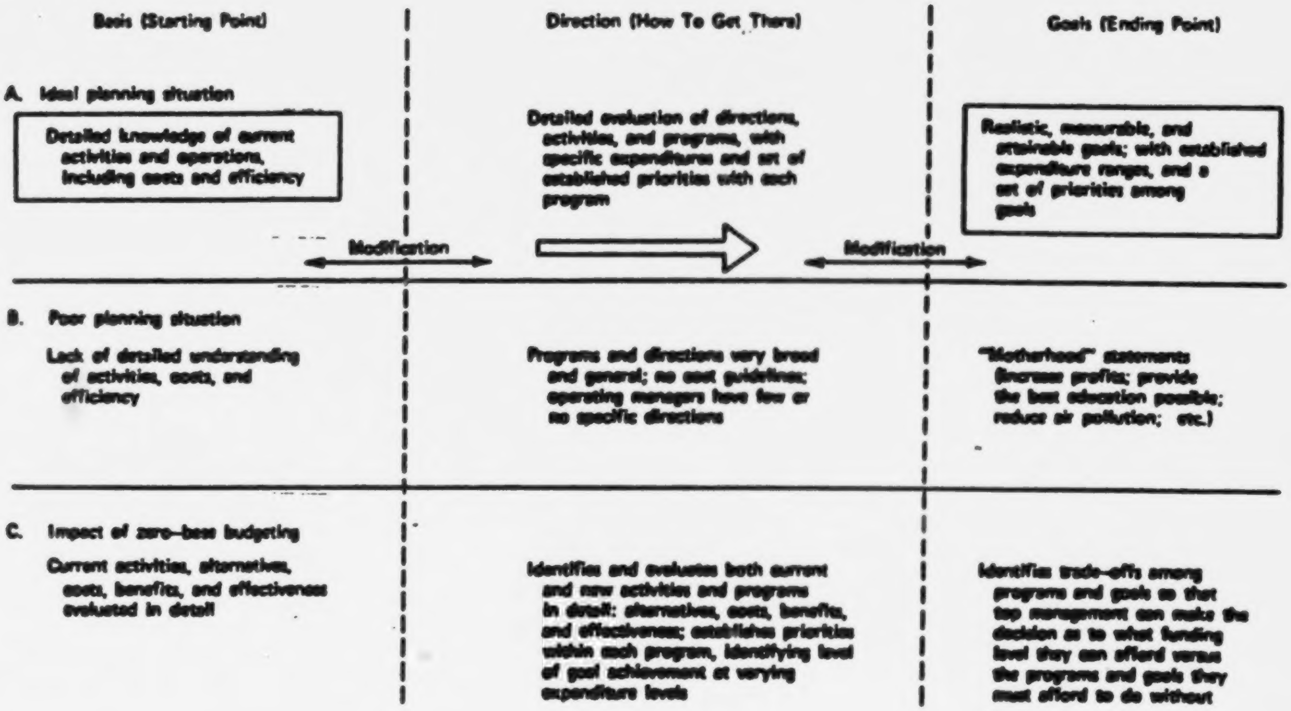

Planning
Establishing plans and programs
Setting goals and objectives
Making basic policy decisions
Zero-Base Budgeting
Detail identification and evaluation of all activities, alternatives, and costs to achieve plans
Evaluation
Test budget against plan
Determine tradeoff between goals and cost
Budget and Operating plan
Revisions

Exhibit 1-2


Modification
Modification

Basis (Starting Point)	Direction (How To Get There)	Goals (Ending Point)
A. Ideal planning situation Detailed knowledge of current activities and operations, including costs and efficiency	Detailed evaluation of directions, activities, and programs, with specific expenditures and set of established priorities with each program	Realistic, measurable, and attainable goals; with established expenditure ranges, and a set of priorities among goals
B. Poor planning situation Lack of detailed understanding of activities, costs, and efficiency	Programs and directions very broad and general; no cost guidelines; operating managers have few or no specific directions	"Motherhood" statements (Increase profits; provide the best education possible; reduce air pollution; etc.)
C. Impact of zero-base budgeting Current activities, alternatives, costs, benefits, and effectiveness evaluated in detail	Identifies and evaluates both current and new activities and programs in detail: alternatives, costs, benefits, and effectiveness; establishes priorities within each program, identifying level of goal achievement at varying expenditure levels	Identifies trade-offs among programs and goals so that top management can make the decision as to what funding level they can afford versus the programs and goals they must afford to do without

APPENDIX I

Figure 1. Resource Allocation Strategies

Root Assumptions	Allocation Model	"Old" Strategies	"New" Strategies	Strengths	Weaknesses
Rational Calculation	Goals (Rational-deductive)	Planning-Programming-Budgeting System (PPBS) Management by objectives (MBO)	Strategic planning	• Focus on ends • Relating means to ends • Sense of direction	• Assumption of knowledge • Consensus • Flexibility/opportunism
	Investment (Marginal utility)	Benefit-cost analysis Zero-based budgeting (ZBB)	Performance budgeting	• Focus on results • Objectivity • Manageable scope	• Valid criteria • Reliable measures • Ad hoc nature
	Cost reimbursement	Performance budgeting (1940s, 1950s) Formula budgeting	Marginal-cost formulas	• Simplicity • Routinization • Equity	• Status quo • Lack of planning
Market Interaction	Interest-group bargaining	Logrolling	Domain defense	• Political rationality • Feasibility	• Nondirectional • Status quo • Tyranny of majority
	Structuring incentives	Vouchers Health maintenance organizations (HMOs) "Every tub"	Responsibility-center budgeting Incentive planning	• Responsiveness • Competition • Decisions close to action	• Absence of market conditions • Nondirectional • Lack of central controls

Table 1. Models of State-Institutional Relationship

Characterization	State Agency	State-Controlled Institution	State-aided Institution	Corporate or "Free-Market" Model
Financing	1. All funds received deposited in general fund and subject to appropriation control 2. Fees and charges prescribed by legislature 3. Financial responsibility for higher education operations vested solely in state government	1. Operating fee collections deposited into state 2. Tuition levels prescribed by legislature 3. Services and activity fees, auxiliary enterprise, revenues, etc. treated as "nonbudgeted" funds 4. State government primarily responsible for financing higher education operations	1. All funds raised by institution retained locally 2. Fees and charges established by institutional governing boards 3. Only state general funds subject to state appropriation 4. Financial responsibility shared by state and institution	1. Institutions control all funds 2. State appropriations made to third-party state agency to contract for services and enrollment opportunities 3. Ultimate financial responsibility vested in corporate institutions
Budgeting	1. The budget request reflects a spending plan 2. Specific workload factors serve as basis for institutional request 3. Relative efficiency a major criterion 4. Legislature approves spending level for programs, major activities and objects of expenditure within programs and activities; adherence expected	1. Variety of formula and incremental bases may be employed 2. Detailed budget requests prepared and submitted by institution, although major funding decisions are based on activity levels, base budgets or other broad factors 3. Funding bases tend to be perceived as spending plans rather than funding vehicles	1. State support based on a general allocation formula — e.g., $/FTE resident student 2. Appropriation on a lump sum basis	1. Contract amounts determined through negotiation or external indices 2. State budget decision has on number of spaces or levels of services "purchased"
Accountability	1. Accountability focused on process considerations — adherence to spending plans, personal policies, etc. — with relatively little attention given to effectiveness of services provided	1. Oversight focused on process considerations, with relatively little attention given to effectiveness of services provided	1. Financial records must be auditable 2. Accountability reporting established as a parallel process; some focus on effectiveness	1. Financial records must be auditable 2. Contract specifies means of "satisfactory performance"

Source: Jones, 1984.

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